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SETTLERS' PROGRESS IN DRY-LAND FARMING IN EASTERN NEW MEXICO

By E. O. WOOTON, *Associate Agricultural Economist, Division of Land Economics,
Bureau of Agricultural Economics*

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INTRODUCTION

A comprehensive study of the agriculture of the Great Plains region was begun in 1920 by several bureaus of the United States Department of Agriculture. In certain aspects of the work they cooperated with the Department of the Interior. Carrying out one part of this program in 1925, in cooperation with the respective State agricultural colleges, data were collected from representative farmers of the Staked Plains in New Mexico¹ and Texas.

LOCATION AND AREA

Curry and Roosevelt Counties constitute the middle part of the eastern tier of five counties of New Mexico. Together they contain the greater part of the Staked Plains area of the State. The western escarpment of this nearly level plateau, locally known as the "cap rock," lies a few miles west and north of the northwestern side of Curry County but closely approximates the western boundary of Roosevelt County. This escarpment is a conspicuous, almost vertical cliff ranging from a few feet to 300 or 400 feet in height along most of its length, except as in places it is obscured by drifting sand. Its approximate location is shown in the sketch map (fig. 1) together with other physical features of the two counties.

¹ The writer acknowledges his indebtedness to the various members of the field parties who collected the data. Particular credit is due L. H. Hauter and C. A. McNabb of the agricultural college staff and County Agricultural Agents E. C. Hollinger of Curry County and R. R. Will of Roosevelt County, who made all advance arrangements for the work and obtained many of the records. Official acknowledgment of the services rendered by the farmers who took time from their work to give the information that made this report possible is hereby gratefully made.

These two counties were selected as constituting the most thoroughly established dry-farming area of the State, and in the belief that accurate summarized information about the experience of farmers in these counties would be valuable to the farmers of this area and to farmers in other dry-land areas of the State which have not been crop farmed for as long a time.

The total area of the farms visited was 49,758 acres in Curry County and 67,330 acres in Roosevelt County. These farms contain, respectively, 5.5 per cent and 4.2 per cent of the total land area of their counties. Since a considerable part of the land area of these counties is not reported in the "land in farms" figures of the census, these farms constitute somewhat larger percentages of the farm land operated in 1924, being 8.7 per cent for Curry County and nearly 7 per cent for Roosevelt County.

The distribution of the farms visited is shown on the sketch map. (Fig. 1.)

SOILS, NATIVE VEGETATION, AND RELIEF

Soil surveys of these counties have not yet been made, so it is possible to give only general notes on this subject. The soils of the region are mostly sandy loams and sand. The sandy loams vary from rather heavy, fine sandy loams in the northern part of Curry County to light, coarse sandy loams near the sandy areas in the southern part of the county. The distribution of the sands (which occasionally pile up into dunes), as shown on the map, was compiled from the original surveys of the area. In general it may be said that the soils of Roosevelt County are lighter and sandier than those of Curry County, and are therefore more likely to "blow." One effect of these differences in soil type is seen in the kinds of crops produced in the two counties. (See Tables 7 and 11.)

The heavier soils of the area are rather fertile, and the lighter soils have not been farmed long enough to show any loss of fertility. The heavier soils are better for wheat than are the lighter soils, but this crop suffers more in dry years than do the crops of wheat that have been sown upon sandy soils. Cotton does best on soils that are sandy enough to prevent the formation of a crust after rain, since such a crust is harmful to young plants, especially at the time of germination.

The surface relief is slight, the land being nearly level to gently rolling. Two or three shallow, broad drainage channels run in a generally southeasterly direction across the northern part of Curry County. As yet the land in these open draws is used mostly for pasture, though most of it could be cultivated. But there is still plenty of available land that can be tilled more easily.

Surrounding Portales is a slight depression running nearly east and west, a mile or so wide and several miles long, that is underlain by a water table near enough to the surface to warrant pumping for irrigation. As yet little use has been made of this asset, probably because the land may be farmed more or less successfully without irrigation during most years. Until forced to do so, farmers will probably not develop this water, and until such time arrives the available supply of irrigation water will not be known.

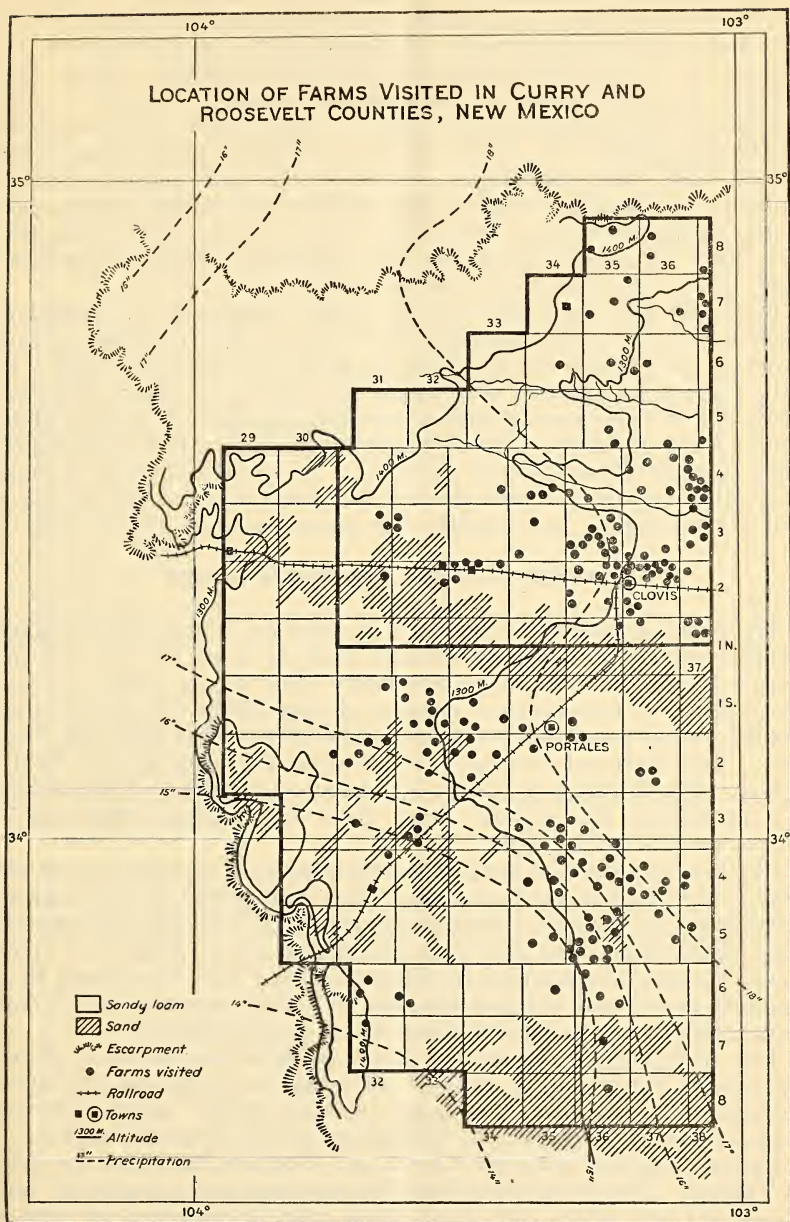


FIG. 1.—Distribution of farms visited and topographic, soil, and climatic characteristics of Curry and Roosevelt Counties, N. Mex.

Much of the land of both of these counties is still unbroken and carries its native vegetation. The heavier soils were, and to some extent still are, occupied by a short grass association consisting mainly of blue grama and buffalo grass with admixtures of *Aristidas*, *Muhlenbergias*, and *Sporoboli* of several species as well as numerous annual and perennial herbaceous flowering plants. These short grasses cover the ground with sufficient density to make a rather broken sod, which prevents blowing. On the sandy land, especially on the dune areas, the native plants are bunch grasses that belong to the tall grass association. The species are mostly those of *Andropogon* locally known as sage grasses and related genera, some of the taller, sand-loving *Sporoboli*, occasional *Aristidas*, etc., while associated with them are a few low shrubs like soapweed and sand sage, and in summer many annual herbs.

Formerly this land was used as range land and was considered reasonably good year-long range for cattle with an average grazing capacity of approximately 20 to 25 acres per head per year. The only permanent pasture now found on the farms which have been made out of this grazing land is this range pasture of native plants. None of the ordinary cultivated pasture grasses will grow upon this land because of insufficient moisture. It is possible that Johnson grass might prove valuable for this use, but it has not yet been tried, and farmers know how readily this plant becomes a bad weed.

CLIMATE, ALTITUDE, AND WATER SUPPLY

These two counties are a part of an interior, continental, semiarid, treeless plateau and have a climate such as is to be expected in a steppe region; that is, there are many clear days; there is a great daily range of temperature, because of high daily temperatures and low nocturnal temperatures; there is low relative humidity and much wind; and there are torrential storms that are usually very local in extent. The drainage is mostly into local depressions, no well-defined system taking the run-off away from the region. The rate of evaporation is rather high.

Practically all of the land of the two counties lies at levels between 4,000 and 4,500 feet above the sea. The 1,300 meter (4,265 feet) and 1,400 meter (4,593 feet) contours, as shown on the latest topographic map of the State, are shown on the sketch map. (Fig. 1.) These elevations are accompanied by thinness of air that does much to accentuate rapid and extreme changes of temperature, which in turn cause extreme variations in humidity and evaporation.

The wide expanse of nearly level, treeless land is, to a degree, responsible for the high rate of wind motion, with the consequent damage to crops and land from blowing, which all the farmers agree is one of the principal difficulties to be met in the region.

Certain climatic data for Clovis and Portales for 1924 are given in Table 1. The departures from the averages over a period of years (normals) are given, and from these may be obtained an idea of the average temperature and precipitation and the length of the growing season. The records also show the extremes that occasionally occur. The precipitation comes mostly as rain in the summer months. One of the greatest difficulties frequently met by farmers

is the scanty or delayed spring rainfall, which makes seed germination very uncertain or so late as to give too short a growing season.

TABLE 1.—*Climatic data for Clovis and Portales, N. Mex.*

[Compiled from reports of the United States Weather Bureau]

Item	Clovis, altitude 4,129 feet 12-14 years' record	Portales, altitude 4,004 feet, 18 years' record
Temperature, 1924:	° F.	° F.
Highest ¹	106	109
Lowest ²	-3	-4
Average—		
January.....	35.9	34.4
Departure from normal ³	-0.4	-2.9
July.....	77.2	75.8
Departure from normal ³	-1.0	-0.3
Extreme records:		
Highest ⁴	109	109
Lowest ⁵	-9	-12
Frost, 1924: ⁶		
Last killing frost.....	Apr. 25, 1924.	Apr. 27, 1924.
First killing frost.....	Oct. 30, 1924.	Sept. 28, 1924.
Extreme records:		
Latest in spring.....	May 6, 1915 and 1917.	May 7, 1915 and 1917.
Earliest in fall.....	Oct. 19, 1916 and 1917.	Sept. 28, 1924.
Precipitation, 1924:	<i>Inches</i>	<i>Inches</i>
Annual.....	11.31	12.61
Departure from normal ³	-7.41	-6.06
April.....	0.23	0.43
Departure from normal ³	-1.71	-1.35
September.....	1.12	1.03
Departure from normal ³	-1.04	-1.14
Extreme records:		
⁷ Greatest annual rainfall ⁷	36.06	27.03
⁸ Least annual rainfall ⁸	7.56	7.40

¹ Clovis, June 27; Portales, June 15.

² Clovis, December 18; Portales, December 25.

³ To get the "normals" for the station add "minus" departures to and subtract "plus" departures from the record of the year given.

⁴ Clovis, 1918; Portales, 1924.

⁵ Clovis, 1911; Portales, 1909.

⁶ Frost free season 1924; Clovis, 188 days, 2 less than normal; Portales 154 days, 29 less than normal.

⁷ Clovis, 1923; Portales, 1919.

⁸ Clovis and Portales 1917.

From the data given it may be seen that the year 1924, as a whole, was slightly cooler than the average, but that there was a hot period in June when the highest temperature on record was experienced at Portales. The precipitation for the year was only about three-fifths of the average, and for the spring germination period the amount was much below the average. The growing season was 2 days shorter than the average in Curry County and 29 days shorter in Roosevelt County. A short growing season is particularly hazardous in Roosevelt County where the farmers are beginning to plant a considerable acreage of cotton. A late spring, caused by lack of sufficient moisture to germinate the seed, and a short growing season seriously diminish yields of a crop that is never very productive in the Staked Plains area. In the arid region generally extremes of weather conditions occur at irregular intervals. Since the weather risk is always large, it is important to know the extremes which might occur. They will be found in the table.

Over all of the Staked Plains region household and stock water is supplied almost entirely by wells. A few farmers have been unable

to find subsurface water on their farms and must haul water from neighboring farms, but well water of good quality may be found at varying depths over most of the region. Near Portales water is found at rather shallow depths (30 to 60 feet), but at other places in Roosevelt County the depths range between 100 and 220 feet. In Curry County the water table is somewhat lower down. The wells on the farms visited were mostly more than 200 feet deep and many were more than 300 feet deep. The greatest depth reported was 408 feet. Practically all of the wells have windmills and in connection with them is some sort of storage tank or reservoir into which the windmill may pump at any time. The surplus water is used for irrigating a garden. In few instances water is piped into the kitchen.

HISTORY OF OCCUPATION

Eastern New Mexico was first used by Americans in the early sixties as grazing land for cattle, though occasional bands of Mexican sheep traveled as far north and east as the Staked Plains region. The men who brought the cattle were mainly Texans from the South and Southeast. During the closing years of the nineteenth century (beginning in 1898) the Pecos Valley Railroad was constructed and a town site was laid out at what is now Portales.

In 1900 there were probably a dozen or more homesteaders located in the immediate vicinity of Portales (mostly employees of the railroad), and not more than 300 people living in the area that now constitutes the two counties. Settlement was encouraged by the favorable seasons of 1900 to 1902, as well as by the easy method of reaching the region by rail, so that during these three years many settlers arrived from the States farther east.

In 1903 settlement had progressed far enough to bring about the establishment of the new counties of Quay and Roosevelt, notwithstanding the unfavorable weather conditions and the withdrawal of many of the settlers. From a period beginning in the latter part of 1904 and extending through 1908 the weather was again favorable and settlement progressed rapidly. About this time the Belen branch of the Santa Fe lines was built and a division point was established at Texico, but was later moved to Clovis. The development which this brought about resulted in the establishment of Curry County in 1909, although another dry period was on the way and a considerable exodus occurred in 1910, the height of a drought that lasted until 1912. During the next four years the weather was favorable. Many who had left returned and others came with them.

The two-year period, 1917-1918, was one of the driest on record, so that almost no crops were raised in 1918. The drought was followed by heavy snows and two weeks of very cold weather about Christmas time in 1918 and many cattle died of cold and hunger. Hardly any feed was produced in the whole region, and stockmen were compelled to ship in high-priced feed to save their breeding stock. Declines in prices of cattle, which came the next season, put out of business all of the larger cattle ranchers who had remained in the region.

Farmers who had learned how to live through the dry periods were ready to profit by the favorable weather of 1919 and 1920. Through their previous experiences they had acquired much im-

portant information. Among other things, they had learned how to grow the different sorghums and found them well fitted for use both as grain and forage crops. Moreover, these crops could be depended upon to produce more or less feed in almost any year. With feed assured for farm animals (a two-year supply is in sight at all times on well-managed farms) and a well that would supply water enough to insure a small garden, the farmer felt that his food was guaranteed, and he could work out a farm organization which would make his business permanent. The farm animals could be depended upon to make considerable contributions to the salable products.

The more fortunate and foresighted men bought additional lands from those who were forced to leave, and the farm unit, which was originally the quarter-section homestead (or half section after the enlarged homestead act was passed), gradually expanded to its present size. (See Table 3.)

It is safe to say that this is a permanently established dry-farming area. Many of the men who are there now and whose records are here given weathered the droughts of 1910 and 1918 and are in better shape to meet another which is sure to come. They have learned when to hustle and when to wait without losing courage. The data summarized in this circular show that many of those who have endured the difficulties and uncertainties of the pioneer period and have stayed have succeeded very well. Notwithstanding the trying conditions, practically all of them stated that they desired to stay, and many of them that they were doing as well as in other localities they had tried, if not better.

THE FARMERS INTERVIEWED

In a study which has for its objective to determine the kind of farming that can be recommended for the area, it is highly important that farmers be selected who can furnish such information. The kind of farming which can be recommended must have been proved to be adapted to the area and must be a more or less permanent or stable system. Considerations of time and expense make careful choice necessary in the selection of what are really samples in a statistical study.

Since only those men who have definitely decided to farm permanently in this area could furnish data as to the progress that may be expected from continuing in the business for years, only those farmers were interviewed who owned part or all of the land they farmed in 1924.

The renter has his important problems and his experience is highly instructive to other renters, but this study was necessarily limited to the consideration of the more fundamental problem, and renters were not interviewed.

No attempt was made by the enumerators to select only the best farms. They obtained records from any owner or part owner who would give the information. Therefore the generalizations presented are representative of the kind of farming that has proven successful in the area and is therefore adapted to the existing physical and economic conditions.

Certain outstanding facts about those farmers who gave their time and assistance to this work seem to be worthy of note. Many of the

men came here after they were middle-aged and had failed to accumulate much wealth. As will be seen, most of them have increased in net worth since they have been running these farms. Many of the farmers were elderly men who were still hale and hearty and satisfied in their work. In Curry County 19 out of 96 farmers and in Roosevelt County 11 out of 95 farmers were over 60 years old; and of these 30 men 6 were 70 years old or older. Nearly 60 per cent of these men came from the semiarid States of Oklahoma, Texas, or New Mexico, where dry weather is usual and where the farmers have faith that rain will come ultimately, and organize their farming operations on this faith.

FARM ORGANIZATION AND PRACTICES

A single type of farming is being carried on in this area, although a few stockmen who raise cattle still remain. They are gradually decreasing the number of their beef animals, reducing the size of their land holdings, raising more crops, and milking more cows. The prevailing type of crop farming may be called general or diversified farming. It is now, and probably will continue to be, limited to a simple, nearly self-sufficing organization, on account of the physical limitations of the area. Only a few crops can be grown at any time, and during unfavorable years nearly all of these fail. The farmer is thus forced to organize his farm business to rest upon the reliable crops and to produce others when he can.

If a farmer has an assured supply of stock feed and a market for livestock and livestock products at his command and he and his family are satisfied to live mainly off the products of the farm, he can continue to farm in such an area indefinitely. This combination of factors is what has made farming possible in this area and what guarantees its continuance.

The crops upon which this farming depends are the sorghums. The grain sorghums produce fodders for which there is a limited local sale, and grains that have an established market and a steadily increasing demand. Sorgo, locally called "cane," furnishes most of the hay and is sometimes used as pasture. Most of the grain sorghums and practically all of the cane are fed on the farms where they are raised. Wheat, broomcorn, and Sudan grass are grown when the season is favorable. The Sudan grass is grown for hay or seed. Wheat is the principal cash crop on the heavier soils, particularly in the central and northern part of Curry County. Broomcorn has been grown with greater or less success on the sandier soils of Roosevelt County and southern Curry County. Recently cotton has been tried more or less extensively in Roosevelt County and tentatively in Curry County, and further experimentation seems warranted. Some corn is raised on most of the farms, both for use and for sale, but yields are rather low and the crop is rather uncertain.

A large supply of grain sorghums in the form of heads or bundled fodder (with the heads attached) is kept on hand most of the time, but after another crop is assured some of this stored feed may be sold either in the form in which it is stored or as threshed grain.

The sorghums are practically certain crops in almost any year, although in 1918 nearly all crops failed. Both kafir and milo are

grown on nearly all farms, the one for heads and the other for bunched feed, and if the seed fails to germinate or other crops fail and the land needs to be replanted, *feterita* and *hegari* are used as the ordinary catch crops. Sudan grass is grown in rows both for hay and for seed. It is even used as a temporary or rotation pasture at times.

The custom of the whole region is to plant practically all crops except wheat with a lister planter. If the soil is in a favorable condition the rows of the previous year's planting are broken out with a one or two row lister in the spring before planting time. Later the crop is planted with the lister planter in the middles of the previous year's rows. If the spring rains are late and the ground is too dry to be worked until planting time and planting work must be hurried, the seeds are planted with a planter attachment in the bottom of the lister furrows, in the middles of the previous year's rows, as soon as it rains enough to soften the ground. The old rows (which become the middles of the new year's planting) are then broken out with the lister or worked down with a go-devil if the soil is not too hard. Practically everything except wheat is planted in rows, cultivated with a knife sled or go-devil, and harvested with a corn-binder, which in this region is known as a rowbinder.

Since the land is level, the fields large, and the soil easy to work, the use of two-row riding machines pulled by four to six horses or mules, which walk abreast, is the ordinary practice. The knife sled or knives on the cultivator are used for all weeding between the rows while the plants are young.

The worst weeds, as yet, are some of the native perennials like blue weed and *trompillo*, but all of the weeds are killed by the hot sun if the roots are cut off by the knives. As these knives do not disturb the surface the danger of soil blowing is minimized. Later cultivation, after the plants are high enough to protect the soil from blowing, is done with a one or two row cultivator. Some of the newer two-row listers are so constructed that cultivator shovels, knives, or disks can be substituted for the lister points and the one frame can be used for all the operations of breaking, planting, and cultivating. Since cotton does not have to be chopped and is hoed very rarely or not at all, it may be handled as are other crops (except the small grains) until picking time.

The result of these practices and conditions is that one man and several horses or mules can farm a relatively large area of land with little or no help. A still further increase of the area that can be tended by one man is to be expected through the use of tractors which are already being adopted in the plains counties of Texas. Their use has the added advantage of making possible the planting of a very large acreage in a short time when the ground is in just the right condition, which is often very important. By working in day and night shifts with such machinery, farmers can get their planting done very rapidly and thus get seed germination that could not be expected without further rain, which may or may not materialize. Once the sorghum or cotton seeds have germinated and the plants are up, they can wait for rain, but seeds that are placed in soil that is too dry either do not germinate, or they die, and the planting must be done over.

METHODS USED IN STUDY

This circular gives in skeletal form a summary of the data obtained from 196 farms in two counties in eastern New Mexico. It is restricted to farming done on owner or part-owner, general, or diversified farms. This is the prevailing type and tenure for permanently established farmers of the area and is believed to be the only one that can safely be recommended at present.

The information concerning the business for the farm year 1924 is presented in three ways:

(1) Certain of the tables are constructed on the basis of per-farm averages. These averages are obtained by dividing the total value of any item (say, crop area, fallow land, or acreage in corn) by the total number of farms in the group, whether they all have the item or not. This method distorts some of the figures, but gives the values for that average farm, which does not exist in reality but which is a good standard of measurement for the area. This method assumes that the farmer owns his place and equipment (that is, has no capital indebtedness) and that he receives what the farm furnishes the family as food and house rent in addition to the income shown as operator's income. It likewise assumes that all the farms have all the enterprises—which assumption is rarely true.

(2) If the per-farm averages distort some of the figures, the real average values may be obtained as per-farm-reporting averages. These latter averages are found by dividing the total value of any item by the number of farms that report that item. Per-farm-reporting averages will be the same as per-farm averages when all the farms report the item. Per-farm-reporting averages are of interest to those farmers who are carrying on the enterprises summarized in a given table.

(3) Since the value of the family living furnished by the farm is a relatively large part of the total production of the average farm, it is desirable to include this amount in the figure which shows the total production of the farm and what the farmer and his family actually received for their work and for the use of the capital invested.

These data are reported in Table 19, where the values called "total income of family from all sources" are approximately comparable to the average yearly wage of the city wage earner and his family, except that the farmer obtains much of his food at farm prices, whereas the city man pays city retail prices.

Besides the data concerning the farm business of 1924, this circular shows the changes in net worth made by farmers during the time they have been working these farms. These values have been corrected for the major items of income and outgo from and to any other business enterprise which may have contributed to or taken from the farm business. Since accumulation of net worth is partly dependent upon the length of time during which the business has been carried on, the data are so tabulated as to show the number of farmers who have made indicated gains in different periods of time. The data are shown by farms reporting and as gains of so many dollars per acre of land owned. Such figures tell plainly the rate at which farmers have accumulated wealth in the area.

The average amount and the character of the indebtedness which these farms are carrying are shown, as well as the rate at which such indebtedness was increased or decreased in 1924.

From these tables and the short explanations of each, a fairly complete idea may be obtained of (1) how well these farmers succeeded in 1924, (2) the progress that these men have made since they have been here, and, indirectly, (3) the practices that have proved to be profitable in the area.

LOCAL SEASONAL CONDITIONS

That the climatic conditions prevailing in the area during the farm year of 1924 were less favorable than the average for the area has already been stated. The year was slightly cooler and drier than the average of records so far, and the spring germination period was considerably drier and later. This, taken with an early fall frost in Roosevelt County, certainly reduced cotton yields and probably increased the total abandoned acreage for the area. Crop yields were probably a little below the average to be expected from these farms though better than the averages reported for these counties by the census. Prices received for wheat (\$1 to \$1.25 per bushel) and cotton (20 cents per pound) were fair to good for the area, but the price of broomcorn was very low for the grade which was most commonly produced. Prices received for the other salable products were close to the average. Farm labor, especially for cotton picking and broomcorn seeding and baling, was scarce and consequently expensive, but this condition can hardly be said to be unusual.

METHOD BY WHICH FARMS WERE OBTAINED

Table 2 shows (1) how and when the interviewed farmers obtained their first land holdings, (2) the average size of holding obtained, and (3) the average cost per acre, during each five-year period since settlement by these men began, in each of the counties.

TABLE 2.—When and how operators obtained their first land holdings, with average¹ amount obtained and cost per acre

CURRY COUNTY N. MEX. (99 FARMS)

Period in which original holding was obtained	Homesteads			Relinquishments			Purchases		
	Farms	Average size of farms	Average cost per acre	Farms	Average size of farms	Average cost per acre	Farms	Average size of farms	Average cost per acre
	Number	Acres		Number	Acres		Number	Acres	
Before 1901				1	160	\$0.11			
1901 to 1905	3	133	\$0.17	1	160	.53			
1906 to 1910	17	183	.19	24	167	2.92	3	160	\$9.27
1911 to 1915	2	240	.15	7	223	1.38	9	196	6.61
1916 to 1920							24	267	14.33
1921 to 1924							8	275	33.16
All farms	22	181	.18	33	178	2.37	44	246	16.67

¹ All averages shown are weighted averages; prices are exact to the nearest cent and sizes to the nearest acre.

TABLE 2.—When and how operators obtained their first land holdings, with average amount obtained and cost per acre—Continued

ROOSEVELT COUNTY (97 FARMS)

Before 1901.....									
1901 to 1905.....	10	208	\$0.19	2	160	\$0.11			
1906 to 1910.....	30	165	.16	14	182	1.68	1	160	\$10.31
1911 to 1915.....	4	240	.13	3	213	.96	3	160	5.04
1916 to 1920.....	1	640	.15				11	195	7.62
1921 to 1924.....							17	292	10.21
All farms ²	45	192	.17	19	185	1.41	32	242	9.17

² One farm of 160 acres was given to the present owner during the last time period.

Besides the land first obtained many of the men have acquired additional land by various methods, and various shifts of ownership by trading or buying and selling have occurred. A few men were able to homestead additional land under one law or another and several bought relinquishments. Most of the acquisition was made by purchase, and several of the men made several separate additions to their original holdings.

Table 3 summarizes the data as to such additions, showing how the additions were made and the average cost per acre to the farmer. The table does not show when the additions were made since the farms are the same as those listed in Table 2 under the corresponding periods. The additions are listed separately and the number of farms making additions is less than the number of additions, since several of the farmers bought two or more additional parcels.

TABLE 3.—When and how additions were made to land holdings, with average acreage added and cost per acre

CURRY COUNTY (99 FARMS)

Period in which original holdings were obtained	Homesteads			Relinquishments			Purchases		
	Additions	Average size ¹ of additions	Average cost ¹ per acre	Additions	Average size of additions	Average cost per acre	Additions	Average size of additions	Average cost per acre
	Number	Acres		Number	Acres		Number	Acres	
Before 1901.....									
1901 to 1905.....				1	160	\$4.88	1	240	\$9.17
1906 to 1910.....	3	133	\$0.20	11	160	2.37	81	180	9.97
1911 to 1915.....	1	160	.11				20	183	10.16
1916 to 1920.....							10	168	10.79
1921 to 1924.....									
All additions ²	4	140	.18	12	160	2.58	112	180	10.07

ROOSEVELT COUNTY (97 FARMS)

Before 1901.....									
1901 to 1905.....	2	160	\$0.16	9	196	\$4.56	17	242	\$6.87
1906 to 1910.....	12	173	.15	13	166	2.11	75	189	5.59
1911 to 1915.....	2	240	.13				26	308	5.77
1916 to 1920.....							10	200	5.89
1921 to 1924.....							4	600	9.42
All additions ²	16	180	.15	22	178	3.21	132	233	6.13

¹ See footnote 1 under Table 2.

² Each addition listed separately; several of the farmers made more than one addition.

These tables and Table 4 show that farmers soon learned that 160 acres (the area they could homestead previous to 1908) was not enough land for a farm unit in the region. Nearly all of them have increased their holdings above one-quarter section and nearly two-thirds of them have more than a half section of land.

Table 4 shows the average price paid for land purchased during each of the five-year periods in each county. Only land which was bought outright either as original or additional holdings is included in the table; hence, the figures give average going values for land during the last 25 years. The trend of these land prices is graphically presented in Figure 2.

TABLE 4.—Average price paid for land in each period

County	1901-1905	1906-1910	1911-1915	1916-1920	1921-1924
Curry.....	\$9.17	\$9.95	\$9.01	\$13.59	\$33.16
Roosevelt.....	6.87	5.64	5.73	6.79	9.95

The range of prices actually paid for land naturally varied with the purchaser and the land. Most of the land obtained as original

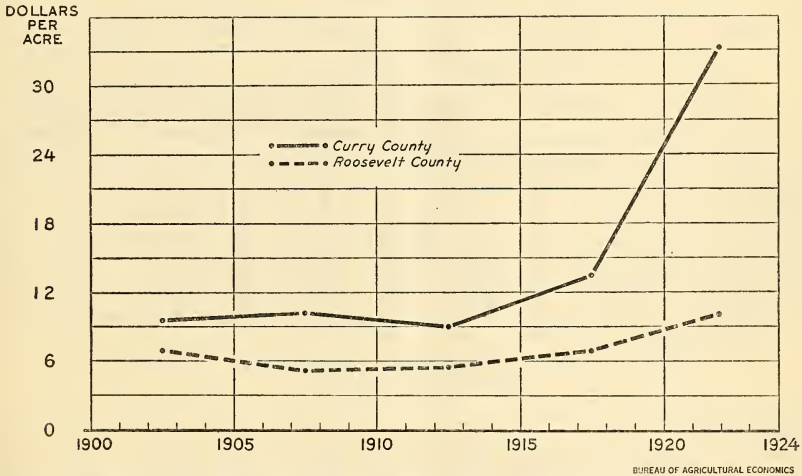


FIG. 2.—TREND OF LAND PRICES IN CURRY AND ROOSEVELT COUNTIES, N. MEX. The average price per acre paid by farmers, by five-year periods, shows the increase that followed 1918

holdings previous to 1915 was taken as homesteads or relinquishments, and cost little more than the amount of the land-office fees plus a small amount to the relinquisher for his improvements or to get a clear title. The earlier purchases were for additional acreages and the prices ranged from \$1 or \$2 up to about \$5 per acre. The prices paid in Roosevelt County have never been as high as those in Curry County. Because the good homestead land had been disposed of before that year, prices since 1915 have been moving rather steadily upward. Prices have gone up much more rapidly also in Curry County than in Roosevelt County. As high as \$25 an acre in Roosevelt County and \$65 an acre in Curry County have been paid in recent years.

SIZE OF FARM AND USE OF THE LAND

The size of the individual farm in these counties was largely determined by the land laws which distributed the land in quarter sections and the custom which thus arose of buying and selling and thinking in terms of quarters. About half of the farms visited contain acreages that are some multiple of 160. For this reason the farms have been grouped on the basis of the quarter section as a unit, to show the distribution of the different sizes.

Table 5 shows the number of farms in each group, the average size of the farms in each group, and the average use which is made of the land in these farms. A little less than half of the farm area is in crops and about the same or a little more is in pasture. These percentages vary somewhat with size of farm; the larger farms usually have a larger percentage of the total area in pasture and a smaller percentage in crops, whereas the reverse condition usually obtains on the smaller farms.

TABLE 5.—Average size of farms and their subdivision according to use of the land

CURRY COUNTY

Size groups	Farms in group ¹		Crops and fallow ³		Pasture, all kinds		Waste land ⁴	
	Number	Average size of farm ²	Average acreage per farm	Per cent of total acreage	Average acreage per farm	Per cent of total acreage	Average acreage per farm	Per cent of total acreage
160 acres or less.....	9	154	88	57.2	60	38.6	6	4.2
161 to 320.....	35	285	157	54.9	117	41.1	11	4.0
321 to 480.....	21	421	204	48.5	204	48.3	13	3.2
481 to 640.....	16	603	340	56.3	248	41.1	15	2.6
641 to 800.....	6	724	358	49.4	346	47.8	20	2.8
801 to 960.....	3	933	260	27.9	655	70.2	18	1.9
961 to 1,120.....	4	1,065	504	47.3	534	50.1	27	2.6
1,121 to 1,280.....	1	1,280	523	40.9	712	55.6	45	3.5
Over 1,280 acres.....	4	1,798	389	21.6	1,367	76.0	42	2.4
Total and average.....	99	503	233	46.3	255	50.7	15	3.0

ROOSEVELT COUNTY

160 acres or less.....	8	128	65	50.8	58	45.3	5	3.9
161 to 320.....	20	261	105	40.1	148	56.8	8	3.1
321 to 480.....	10	438	147	33.5	279	63.8	12	2.7
481 to 640.....	20	608	147	24.2	444	73.0	17	2.8
641 to 800.....	10	758	172	22.8	566	74.6	20	2.6
801 to 960.....	9	933	169	18.1	730	78.2	34	3.7
961 to 1,120.....	9	1,075	210	19.6	843	78.4	22	2.0
1,121 to 1,280.....	4	1,258	100	7.9	1,100	87.4	58	4.7
Over 1,280 acres.....	7	1,982	203	10.2	1,753	88.5	26	1.3
Total and average.....	97	694	144	20.8	532	76.6	18	2.6

¹ Since almost 100 farms are listed in each county, the figures showing the number of farms in each size group also show about the percentage of farms of that size in the list. And since these are representative owned farms of each county, the percentages arrived at among them are reasonably reliable for the counties as regards owner farms.

² The averages shown are weighted averages and are exact to the nearest acre and the nearest tenth of a per cent.

³ Six farms in Curry County and one in Roosevelt County reported small acreages of fallow land.

⁴ Building lots, corrals, lanes, roads, etc.

In Curry County the smallest farm visited contained 130 acres and the largest had 2,840 acres. The smallest acreage in crops on any farm was 30 acres, which was 23 per cent of that farm's total acreage. The largest cropped acreage on a single farm was 690 acres, which was 52 per cent of that farm's total. The percentage

of cropped land on the farms visited in this county varied from 8 to 92 per cent; the averages for the different sized farms are shown in Table 5.

The farms of Roosevelt County were, generally speaking, somewhat larger than those of Curry County, and had a smaller proportion of land in crops. The smallest farm visited contained only 40 acres and the largest contained 3,885 acres. Several of the larger farms had less than 5 per cent of the total acreage in crops, but the very small farms were practically all in cultivation.

In both counties nearly all the land that is not in cultivation is in native grass, which for this area is classed as permanent pasture. Practically all of it is tillable and will be broken as soon as farmers are able to establish an assured farm organization under which such lands will produce more when cultivated than they do in grass and with the same degree of certainty in dry years.

In Curry County, 14 of the farmers grew a few acres of Sudan grass or cane for pasture, but only 1 farmer in Roosevelt County followed this practice.

The roads, lanes, corrals, and house lots account for most of the land classed as waste land in Table 5. There is an occasional tract too sandy or too rocky to be used and a few hollows where the run-off from summer rains collects and drowns any sort of vegetation. Under certain favorable circumstances, however, such sinks became the best pasture land of the farm.

The acreages shown in Table 5 are the averages for the farms as operated. Over half of these farms had more or less rented land which these operators farmed and about 20 per cent of the operators let more or less of their own land to others and did not farm it themselves. Part of the land was rented for cash and part for share rent. Practically all the land rented for cash was grassland used as pasture. This amounted to nearly half of all rented land in Curry County and nearly 90 per cent of the rented land in Roosevelt County.

The details of these renting transactions are shown in Table 6.

TABLE 6.—Rented land operated and land let to others

	Curry County	Roosevelt County
Farms visited.....number..	99	97
Rented land:		
Farms having rented land ¹do.....	46	56
Total area of rented land.....acres..	10,939	17,716
Percentage rented land is of total area.....per cent..	22.0	26.3
Average area rented land per farm having any rented land.....acres..	238	316
Smallest amount rented on any one farm.....do.....	10	20
Largest amount rented on any one farm.....do.....	1,400	1,280
Parcels rented for cash ¹number..	18	38
Total area rented for cash.....acres..	4,877	15,020
Average cash price paid per acre per year.....dollars..	.26	.13
Parcels rented on shares ¹number..	34	23
Total area rented on shares.....acres..	6,062	2,696
Average value of share paid per acre in 1924 ²dollars..	2.47	1.45
Land let to others:		
Farmers letting land to others.....number..	21	19
Total area let ³acres..	2,588	2,457
Average rent received per acre per year ⁴dollars..	3.14	1.72
Percentage of farmers' own land let to others.....per cent..	6.3	4.7

¹ Several of the farmers rented land both for cash and for share. Such parcels are treated separately.

² The value of the share paid per acre was computed by dividing the total value of the share of the crops received by all landlords (calculated at the prices received by the operators for their own parts of the same crops) by the total number of acres of share rented land.

³ The area of land let to others is not included in the total area of farms as used here and in Table 5.

⁴ The average rent received was computed in the same way as described under footnote 2.

CROPS GROWN AND AVERAGE YIELDS

Grain sorghum, of one kind or another, was the principal crop grown in each of the counties, occupying more than 40 per cent of the crop area in Curry County and 42 per cent in Roosevelt County. When it is remembered that most of the hay of the region is either cane (sorgo) or Sudan grass, and that broomcorn, one of the principal cash crops of Roosevelt County, and the two hay crops mentioned are all sorghums, the importance of this group of plants to farming in this whole area may be appreciated.

In Curry County, wheat and other small grains (rye, oats, and barley) occupied second place in crop acreage at the time of the study, but were grown very little in Roosevelt County, where, on the basis of area occupied, broomcorn took second place and cotton was third, although cotton was first as a source of cash income. Indian corn was grown to some extent in both counties, but yields from this crop are low and the risk of failure is greater than for any of the other crops grown.

The crop reported as hay in the tables is a mixture. The custom in this area is to grow several acres of some one or more of the sorgos (amber, sumac, etc.) for forage. The plants are allowed to mature seed and are cut with a row binder; hence, this kind of hay is usually fodder in the strict sense of that term. Occasionally the cane is cut when immature and it is then comparable to a coarse hay. Some Sudan grass was grown for hay, but it is usually cut with a row binder and handled in bundles. Some of the Sudan grass is ordinarily allowed to mature seed and the seed is threshed and sold as a seed crop, while the straw becomes forage of a poor grade. Milo is usually headed. Sometimes stock is turned into the field of standing stalks to clean up any available feed. Kafir is nearly always bundled. As practically everything except small grains is grown in rows and harvested in bundles, no haying machinery is found in the area.

The production of broomcorn has been urged upon farmers in Roosevelt County and it is to be recommended, within limits, for the light sandy soils of both counties. But the total annual demand for either brush or seed in the United States is limited and it is rather easy to oversupply the market, especially that using the coarser and poorer grades of brush. Consequently, prices for coarse, low-grade brush fluctuate widely, and in 1924 farmers were forced to accept prices for this grade which were below actual cost of production; while fine, well-colored brush was selling at prices that made such a crop profitable to the grower. A cooperative broomcorn association in Roosevelt County has benefited those of its members who have grown a good quality of product.

Cotton is increasing in importance in these two counties. The United States census reports a production of 23 bales in Roosevelt County in 1919 and 2,613 bales in 1924. Curry County, hitherto considered a wheat county, produced 366 bales in 1924. Nearly half the farms that were visited in Roosevelt County (47 per cent) and about 10 per cent of those in Curry County grew cotton with some measure of success in 1924. On several other farms in both counties it was tried in a small way without getting any crop. The average yield as reported in Table 8 is equal to or better than that reported

from different localities in the eastern part of the Cotton Belt. The yields shown in Tables 7 and 8 are calculated from the harvested acreage and do not take into consideration a comparatively large abandonment. As farmers of the area improve their practices with what is now a new crop, the percentage of abandonment will decrease, although it will probably never entirely disappear.

Further experimental growing of cotton in these two counties will no doubt occur and is warranted by past experience. Certain general principles should be kept in mind. Cotton is most likely to succeed on the sandy soils and to give largest yields in years having an early wet spring and more than average rainfall. As the germination period is the critical time in the life history of the plant, it is important that the seeds be planted in a soil that is properly moist and warm so that they will germinate quickly, and vigorous young plants will start. Sandy soils are well adapted to these requirements since they do not cake when dry, they warm up readily, and they give up a large percentage of their contained moisture.

But although the farmer may select the proper soil, the necessary favorable climatic conditions for cotton do not occur very frequently in these counties. Extremely unfavorable seasons occur about as often as very favorable seasons, and extremely unfavorable seasons in most cases result in complete failure of any known variety of cotton. For perhaps half of the time the growing conditions will be just a little worse or just a little better than the averages shown in weather reports. For such conditions farmers need the variety which is best adapted to such environment. Such a type is to be most easily obtained by seed selection in the region, starting with that existing variety which most nearly fits the requirements.

It is very important that farmers who patronize the same gin should all grow the same variety of cotton in order that they may avoid mongrelizing their planting seed.

Table 7 presents the data on acreage in crops and average yields for 1924 in the two counties.

TABLE 7.—Average area in crops and average yields, 1924

[Per farm averages]

Crop	Curry County (99 farms)			Roosevelt County (97 farms)		
	Acreage planted	Acreage harvested	Yield per acre ¹	Acreage planted	Acreage harvested	Yield per acre ¹
	<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>
Wheat.....	64	60	12.8	4	4	11.9
Other small grain.....	17	14	8.0	.4	.4	8.6
Corn.....	11	11	22.4	10	10	18.3
Grain sorghum:						
Threshed grain.....	63	63	25.6	17	17	24.1
Headed grain.....	17	16	1.1	30	28	0.6
Bundled fodder.....	14	11	2.1	15	14	1.1
Hay, all kinds.....	20	17	1.3	13	12	1.3
Broomcorn.....	11	9	.17	33	31	.13
			<i>Pounds</i>			<i>Pounds</i>
Sudan seed.....	6	6	416	.3	2.6	574
Cotton lint.....	5	2	106	19	12	117
Cottonseed.....	0	0	186	0	0	201
All other crops.....	2	1	0	2	1	0
Area of summer fallow.....	3	3	0	0	0	0
Total.....	233	213		144	130	

¹ Yield figures are average yield per acre of land harvested; they are not per farm averages.

² Part of the area harvested was replanted cotton land.

An important part of the farm in this area is the small garden (see table 15) which can be irrigated from a storage tank or earth reservoir into which the windmill has been pumping water from the well. These gardens were found to be profitable, since they furnished considerable food for the family and occasionally supplied vegetables for sale. The garden is rarely over half an acre in size and frequently is not so large. About 82 per cent of the farms of Curry County and 68 per cent of those in Roosevelt County had gardens.

A few of the farmers have succeeded in growing fruits such as plums, peaches, and grapes in small plots near the house. The results indicate that a great deal more can be done in this direction.

Farmers were asked to give the yields of certain of the crops for as many years in the past as they could remember. For the last five or six years these data are fairly reliable, but before that time the number of records is so small as to render the averages not very accurate. They are given here (Table 8) for what they are worth. The census figures for these two counties as far as they are available are given for comparison. These are the only comparable data available. They show that the farmers visited have been getting yields equal to or better than the averages reported for the counties.

TABLE 8.—Average yield of specified crops, as reported by farmers, compared with United States census records

Year	Curry County						Roosevelt County							
	Wheat		Grain sorghum		Corn		Wheat		Grain sorghum		Broom-corn		Cotton	
	Farms report- ing	Average yield per acre	Farms report- ing	Average yield per acre	Farms report- ing	Average yield per acre	Farms report- ing	Average yield per acre	Farms report- ing	Average yield per acre	Farms report- ing	Average yield per acre	Farms report- ing	Average yield per acre
	No.	Bus.	No.	Bus.	No.	Bus.	No.	Bus.	No.	Bus.	No.	Lbs.	No.	Lbs.
1915	1	2.9	2	37.0	---	---	---	---	---	---	---	---	---	---
1916	2	8.7	3	17.2	1	16	---	---	---	---	---	---	---	---
1917	6	9.7	3	13.0	1	17	---	---	1	20.0	---	---	---	---
1918	8	15.4	2	9.1	1	12	---	---	13	0.0	---	---	---	---
1919	14	19.2	3	31.6	1	55	---	---	2	16.0	1	500	---	---
1920	17	16.3	8	27.6	2	34.2	1	11.0	2	20.0	1	234	1	250
1921	19	10.2	13	24.6	2	18.1	1	15.0	6	22.3	2	278	---	---
1922	13	6.6	18	15.5	3	6.2	---	---	8	18.0	5	266	4	164
1923	16	7.1	26	19.6	5	20.7	---	---	12	20.3	15	270	8	134
1924	44	12.8	77	25.6	69	22.4	8	11.9	31	24.1	77	269	46	117
Total and average	140	11.6	155	23.1	85	22.0	10	12.1	75	18.1	101	271	59	---

UNITED STATES CENSUS REPORTS

1909	---	2.5	---	6.7	---	4.4	---	---	---	6.4	---	---	---	---
1919	---	18.3	---	26.1	---	26.6	---	---	---	20.9	---	---	---	160
1924	---	11.4	---	20.0	---	18.3	---	---	---	16.2	---	---	---	90

¹ 6 farmers reported complete failure of the wheat crop in 1918. The 2 farms reporting crops averaged 21.7 bushels per acre.

² Including failures in 1918.

Extremely dry years occurred in 1909, 1910, 1911, and 1918, and farmers reported more or less complete crop failures for these years. Nine records of hail damage to wheat, which either reduced or de-

stroyed the crop, were recorded out of 91 reports ranging over the period shown.

LIVESTOCK ON THE FARMS

Practically all of the field work on these farms is done with horses or mules; hence, all the farms have some work animals, although four farmers did not own the stock they used. While most of the work animals are horses, many farmers prefer and use mules.

Practically all of the farms have milk cows that are used principally for producing milk and butter for the family. Over three-fourths of the farms in Curry County (76 per cent) and 80 per cent of those in Roosevelt County sold butter or butterfat.

The breed of cows in common use in both counties is the Jersey. There is a considerable percentage of purebred and registered Jersey bulls in use and probably two-thirds of the cows are well-bred up Jersey grades.

About one-third of the farmers own brood sows and raise some pigs. An even larger proportion (59 per cent in Curry County and 46 per cent in Roosevelt County) sell hogs, and something over 10 per cent of them sell pork that is butchered on the farm. About three-fourths of the farmers butcher and cure pork for their home use.

Sheep were reported from only six farms in the two counties, mostly as small farm flocks. Chickens are to be found on all but two farms and turkeys were raised on a number of farms.

The details of livestock ownership and average values of the different kinds are shown on a per-farm-reporting basis in Table 9. In Table 10 is shown the per-farm average value of the livestock as a part of the fixed capital of the farm business. In Table 12 are shown the sales of livestock and livestock products.

TABLE 9.—Average number¹ and value of farm animals, by farms reporting any of each kind

CURRY COUNTY (99 FARMS)

Items	Number of farms reporting	Percentage of all farms	Average number of animals per farm reporting	Smallest number reported from any farm	Largest number reported from any farm	Average value per head
Work animals.....	96	97	8	2	23	\$58.00
Other horses and mules.....	64	65	4	1	30	35.00
Milk cows.....	98	99	6	1	24	35.00
All other cattle.....	88	89	11	1	102	17.00
Sheep (all kinds) ²	4	4	55	5	104	9.00
Brood sows.....	35	35	2	1	5	30.00
Other hogs and pigs.....	43	43	4	1	15	14.00
Poultry (all kinds).....	98	99	124	25	1,000	.83

ROOSEVELT COUNTY (97 FARMS)

Work animals.....	96	99	7	2	51	\$61.00
Other horses and mules.....	61	63	7	1	98	33.00
Milk cows.....	95	98	11	1	50	33.00
All other cattle.....	93	96	26	1	213	19.00
Sheep (all kinds) ²	2	2	32	3	60	7.00
Brood sows.....	33	34	1	1	5	30.00
Other hogs and pigs.....	39	40	4	1	15	11.00
Poultry (all kinds).....	96	99	131	20	1,300	.97

¹ Not reduced to animals units.

² Nearest whole number.

³ Includes goats.

Tables 9, 10, 11, 12, 13, and 15 show the importance of livestock on these farms. The men who have stayed in the area learned well the lesson that was taught them years ago by the farmers' institute leader, whose slogan was "Milk or move." They began to use animals to turn sorghum feeds into salable products, and the permanence of farming in this area to-day rests upon the continuance of this practice.

CAPITAL INVESTMENT

Of major importance in any business is the capital invested in it. The average amount of land in the farm and the number and value of the livestock have been shown in Tables 5 and 9. Average values of these items as well as of other items of fixed or permanent capital, such as real-estate improvements, machinery and tools, feed and supplies on hand, etc., are shown in Table 10.

TABLE 10.—Farm capital—average values per farm

Items	Curry County (99 farms)		Roosevelt county (97 farms)	
	Value	Percent- age of total oper- ator's capital	Value	Percent- age of total oper- ator's capital
Land owned.....	\$8,976	66.2	\$7,247	64.3
Dwellings.....	820	6.1	716	6.4
Other buildings.....	340	2.5	250	2.2
Water systems.....	613	4.5	208	1.8
Fences.....	191	1.4	222	2.0
Total real estate.....	10,940	80.7	8,643	76.7
Work stock.....	432	3.2	417	3.7
All other livestock.....	627	4.6	1,126	10.0
Machinery and equipment.....	516	3.8	330	2.9
Tractors.....	166	1.2	-----	-----
Automobiles and trucks.....	279	2.1	175	1.5
Feed and supplies ¹	592	4.4	583	5.2
Total operator's capital.....	13,552	100.0	11,274	100.0
Land rented from others ²	1,929	-----	1,973	-----
Total farm capital.....	15,481	-----	13,247	-----
Range in amount of total operator's capital:				
Lowest.....	2,688	-----	2,380	-----
Highest.....	56,302	-----	47,338	-----

¹ Crops on hand held for sale are treated as having been sold at the prices current at the end of the farm year. This is done in order to get as complete a figure for annual output of the farm as possible. The consequences of this method are that figures showing receipts may be a little larger, and capital, assets, and net worth a little smaller than they otherwise would be.

² This average rests upon estimates of the value of the rented land made by the renter or by the enumerator, on the basis of values assigned to other near-by land.

From Table 10 it may be seen that by far the greater part of the farmers' capital investment is in land. Since very little land was being sold at the time the data were collected, the land values shown in the table are merely the best estimates obtainable from men who own and use the land for farming. These values and those put upon other investments, like improvements, machinery, and livestock, are fairly accurate. If cotton prices stay at 20 cents per pound

of lint, or rise, it is probable that prices of the sandier lands (not including the typical sands and sand dunes) that are now considered a little less valuable than those having heavier soils, may advance a little. This change will probably take place slowly and occur only after the necessary organization for handling such a crop has been established.

The average value given by the farmers for their own land (not including the improvements) was \$21 per acre for Curry County and \$13 per acre for Roosevelt County. Corresponding estimates for the land they rented are \$17 and \$11.

A comparison of Table 10 with Table 5 shows that although the farms in Curry County are mostly smaller than those in Roosevelt County, the capital invested in real estate is over one-fourth larger; that investment in work stock and feed and supplies is about the same in the two counties; that the farmers in Roosevelt County pay considerably less for their water systems than those in Curry County, as the water table is not so deep; that they pay a little more for fences because the farms are larger; and that they have more livestock and less farm machinery, equipment, and automotive machinery than Curry County farmers.

Twenty of the Curry County farmers had tractors with an average investment of \$823 per owner. These were all on the larger farms. The farmers visited in Roosevelt County have so far not bought tractors. Automobiles and trucks are common in both counties. In Curry County, 76 of the farms have one or more, with an average investment of \$363, and 65 of the farms in Roosevelt County are supplied, representing an average investment of \$262 per farm reporting.

FARM RECEIPTS

Farm receipts may originate in several ways. Sales of crops, livestock, or livestock products are the usual sources. But a considerable number of farmers do farm work for their neighbors or rent machinery, teams, or pasture, and a few do other outside work for which they receive pay that goes into the farm business. Increases in inventory value of livestock or of feed and supplies on hand, which are made during the year, are really credits to the farm business of the year, though such returns to the farm are sometimes overlooked when the farmer tries to balance his books at the end of the year.

It is customary in studies of this kind to report net increases in value arising from the livestock transactions; that is, purchases, sales, losses, slaughter, and increases in number by birth, as receipts from livestock. Similarly, net increases in the value of feed and supplies on hand at the end of the year over the inventory taken at the beginning of the year are referred to as receipts. This usage extends the meaning of the word receipts to that of credits, but the expression has become fairly well established in the literature in this technical sense and is maintained in this circular.

A summary of the operator's receipts from various sources is shown as per-farm averages in Table 11. The table is headed "Operator's receipts," because the purpose is to compare operators' incomes rather than total farm incomes. On the share-rented land included in these farms only the operator's share of the crop is considered in

any of the tables, the landlord's share having been deducted. It is necessary to handle the operators' account separately because reliable data as to the landlords' receipts, expenses, or capitalization could not be obtained; hence farm receipts, farm expenses, and farm income are omitted. But on all farms that did not operate rented land (about half of them) the operators' receipts are the same as farm receipts.

The cash receipts shown in Table 11 include only the actual cash received for crops, livestock, and livestock products sold, and whatever the operator received as wages for work done off the farm.

TABLE 11.—Operator's receipts—average amount per farm

Sources of receipts	Curry County (99 farms)		Roosevelt County (97 farms)	
	Amount	Percent- age of total	Amount	Percent- age of total
Crops (sold and held for sale).....	\$2,162	65.5	\$988	41.9
Livestock (sales and increased inventory).....	286	8.7	450	19.1
Livestock products, etc., sold.....	313	9.5	478	20.3
Increase in inventory of feed and supplies on hand.....	322	9.7	348	14.8
Outside earnings.....	219	6.6	92	3.9
Total receipts	3,302	100.0	2,356	100.0
Cash receipts.....	3,045	-----	2,006	-----

An itemized statement of the operator's cash receipts from sales of farm products is presented on a per-farm-reporting basis in Table 12. This table shows the various products sold, the number of farms selling each commodity, the total amount sold, and the sum received for it, from which the average price is computed.

TABLE 12.—Sales of farm products: Total amounts of each commodity sold and total value received, with average price per unit, and number of farms reporting

Item	Curry County (99 farms)				Roosevelt County (97 farms)			
	Farms selling	Quantity sold	Average price received per unit	Amount received ¹	Farms selling	Quantity sold	Average price received per unit	Amount received ¹
Crops:	<i>Number</i>	<i>Bushels</i>			<i>Number</i>	<i>Bushels</i>		
Wheat.....	42	65,520	\$1.09	\$71,362	7	3,329	\$1.25	\$4,171
Other small grains.....	10	3,140	.47	1,467	0	0	0	0
Corn.....	38	9,736	.97	9,472	17	4,715	1.04	4,887
Grain sorghums.....								
Threshed grain.....	65	84,396	.74	62,376	20	10,477	.80	8,391
		<i>Tons</i>				<i>Tons</i>		
Heads.....	18	1,393	11.28	15,718	30	370	21.94	8,118
Bundled fodder.....	5	114	15.62	1,781	12	148	11.89	1,759
Hay (all kinds).....	8	67	10.13	679	8	22	10.00	220
Cottonseed.....	11	12	26.17	314	46	36	28.06	1,010
Broomcorn.....	25	141	49.28	6,949	68	333	60.98	20,306
		<i>Bales</i>				<i>Bales</i>		
Cotton, lint.....	11	33	94.45	3,117	46	250	98.57	24,642
All other crops.....	36			9,195	26			2,022
Total				182,430				75,526

¹ The average amounts received per farm for sales of crops, etc., are not shown in this table.

TABLE 12.—Sales of farm products: Total amounts of each commodity sold and total value received, with average price per unit, and number of farms reporting—Continued.

Item	Curry County (99 farms)				Roosevelt County (97 farms)			
	Farms selling	Quantity sold	Average price received per unit	Amount received	Farms selling	Quantity sold	Average price received per unit	Amount received
Livestock:		<i>Number</i>				<i>Number</i>		
Horses and mules.....	25	73	\$75.00	\$5,460	26	76	\$63.00	\$4,813
Milk cows.....	33	128	28.00	3,527	43	181	30.00	5,469
All other cattle.....	55	614	18.00	11,211	65	1,310	17.00	22,893
Sheep (all ages).....	4	76	6.00	488	2	6	3.00	20
Swine (all ages).....	58	789	11.00	8,820	45	426	12.00	5,020
Poultry.....	74	6,951	.75	5,233	76	6,717	.79	5,315
Total.....				34,739				43,530
Livestock products:		<i>Pounds</i>				<i>Pounds</i>		
Butter.....	34	13,695	.44	6,010	4	365	.40	146
Butter fat.....	56	32,435	.34	10,896	76	88,175	.32	28,401
Beef (home butchered).....	18	8,092	.10	780	14	4,264	.10	422
Pork (home butchered).....	13	4,580	.11	514	11	9,464	.14	1,366
Milk.....	6	4,258	.25	1,063				
Eggs.....	88	<i>Dozen</i> 45,642	.24	10,961	95	<i>Dozen</i> 70,146	.22	15,658
Miscellaneous ²	27			751	29			374
Total.....				30,975				46,367

² Includes hides, wool, breeding fees, etc.

Several interesting comparisons are possible from Table 12. It shows plainly the importance of the sorghums as salable crops, notwithstanding the custom of considering them as crops to be used on the farm. The importance of cotton in Roosevelt County after only five years' experience is clearly indicated, as it is second in the list of sources of cash income for 1924. This result was obtained during a rather unfavorable growing season but under favorable price conditions. The prospects for this crop seem good in the area, even at a considerably lower price level, when the large area of unused, cheap land upon which cotton might be grown is considered.

The relative importance of crops and livestock as sources of cash income may be easily compared with each other and in the two counties. In Curry County nearly three-fourths (74 per cent) of the cash receipts were from crop sales, whereas in Roosevelt County over half (54 per cent) of the cash receipts came from the livestock enterprises. In Roosevelt County, butterfat, sold as cream, brought in more cash than sales of cattle, whereas eggs were more important as a source of cash income than sales of poultry, hogs, and farm-butchered fresh meat combined.

The analysis of the output of poultry and dairy products shown in Table 13, which gives per farm averages of the quantities produced and their values, is instructive. It shows clearly what poor returns the milk cows are making.

TABLE 13.—*Poultry and dairy products—average quantity and value per farm*

Item	Curry County (99 farms)	Roosevelt County (97 farms)
Poultry and poultry products:		
Hens on the farm ¹	number.....	115
Chickens sold ¹	do.....	70
Chickens used ¹	do.....	77
Total value of chickens sold and used ¹	dollars.....	92
Eggs sold.....	dozen.....	464
Eggs used.....	do.....	145
Total value of eggs sold and used.....	dollars.....	144
Value of total poultry products per hen.....	do.....	2.05
Cows and dairy products:		
Cows milked.....	number.....	6
Weight of butter sold.....	pounds.....	138
Weight of butter used.....	do.....	110
Total value of butter sold and used.....	dollars.....	94
Weight of butterfat sold.....	pounds.....	328
Total value of butterfat sold.....	dollars.....	110
Market milk sold.....	gallons.....	43
Market milk used.....	do.....	436
Total value market milk sold and used.....	dollars.....	84
Value of total dairy products per cow.....	do.....	48

¹ Includes all kinds of poultry.

Returns like these from an enterprise, which is and must always remain a guaranty of safety during that dry year which is sure to come in this region, should be carefully considered. Larger returns from the milk cows might be brought about by any one of three changes: (1) Change in the ration, (2) change to more productive cows, or (3) change in both ration and cows. The necessary change of ration can be made by the introduction of some feed having a high protein content. The only feed of this kind that has so far been produced in the area is cottonseed, though tentative experiments recently made with cowpeas were promising. At present, concentrates carrying protein in sufficient quantity to balance the ration of home-grown feeds must be bought at rather high prices and must be hauled long distances.

There can be little doubt that the low return per cow shown is to some degree due to the character of the feed which, though ample in quantity, is usually lacking in protein content. If it were possible to produce on the farms a feed having a protein content in excess of that required for a properly balanced ration, the problem of balancing the ration would be solved. Some sort of leguminous hay crop that can be raised on the farm would be most valuable not only for its feed value but also to use in a rotation of crops that would maintain fertility of the soil. It would pay to experiment with all such crops as offer any promise of enduring the climatic conditions.

The Jersey cows kept do not have much value when their milking days are over, nor can they or their calves be fattened as easily on the available feeds as the animals of some other breeds. The common practice in the area is to kill most of the Jersey calves when dropped. Attention might well be given to the possibility of substituting cows of dual-purpose type with a view to securing more for the cows and calves at slaughtering time, if a substitution could be made without too much sacrifice of production of milk or butterfat.

Work done off the farm has been mentioned as a source of income. (See Table 11, "Outside earnings.") Such work is usually some form of farm work in which the operator or his teams and equip-

ment or both are used to help a neighbor. He may make his tractor or truck help pay for itself by using it for hire. Several of the men make a practice of doing road work with their teams or tractors when they are not busy with their farm work. All such work is referred to in Table 14 as "Farm and road work, etc." The value of exchange work of any kind is not included.

Other men worked as carpenters or blacksmiths for longer or shorter periods. An occasional farmer received pay for services as a county commissioner or other officer, or for teaching school. Sometimes insurance is received for damage from hail or insect pests. The analysis of these receipts on a per-farm-reporting basis is shown in Table 14.

TABLE 14.—Average receipts, per farm reporting, for work done off the farm and from other outside sources

County	Farm and road work, etc.		Other sources, rent of buildings, insurance, etc.	
	Number of men reporting	Average amount received	Number of men reporting	Average amount received
Curry.....	45	\$416	6	\$490
Roosevelt.....	36	102	23	228

Another important source of income to the farm family is the food and house rent furnished by the farm. The amount of this income varies considerably with the number of persons in the family, the quantity of farm products they use, and the value of the dwelling house.

In most of the publications which treat of the farm business it is assumed that these items of family living have been furnished in addition to the income from the farm business, and the value of the items is omitted from the "total receipts" tables. This practice is followed here so that the figures may be comparable with other published data.

But from the standpoint of the total production of the farm for a year it is necessary to include these items, which are really of major importance, especially upon the small farm where a large part of the total output of the farm is used by the farm family. An itemized analysis of the value of the family farm living is shown on a per-farm average basis in Table 15.

TABLE 15.—Average value per farm of farm products used by the family

Item	Curry County (99 farms)		Roosevelt County (97 farms)	
	Value	Percentage of total	Value	Percentage of total
Dairy and poultry products.....	\$175	39.1	\$206	43.6
Meat—beef and pork.....	78	17.4	90	19.1
Garden and orchards products.....	40	8.9	44	9.3
Other products—flour, fuel, etc.....	1	.2	1	.2
House rent.....	154	34.4	131	27.8
Total.....	448	100.0	472	100.0

All of these farmers used more or less dairy and poultry products and all but two obtained house rent from the farm. These two were young unmarried men just beginning to farm in Roosevelt County who boarded with neighbors. In Curry County, 83 of the farmers raised their own meat and 81 of them obtained more or less food from their gardens and orchards. The corresponding figures for Roosevelt County are 90 and 66. These figures show that it is the custom of farmers in both counties to make the farms produce a large part of the family living.

FARM EXPENSES

The ordinary expenses for materials and labor, as well as cash paid for land rent, taxes, insurance, and repairs, are here summarized as current expenses. Share rent paid has been left out of the expense account because of reporting the net instead of the gross receipts from all rented land.

Farmers are likely to overlook changes in inventory value of livestock and feed and supplies on hand. When the difference between the inventories at the beginning and at the end of the year denotes an increase, this increase is carried in this account as receipts (see p. 21) but when the difference is a decrease the amount of the decrease is carried as an expense.

Another item of very real, but easily overlooked, expense is the depreciation on all buildings, fences, water systems, machinery, and equipment generally. Farmers usually ignore this annual charge against their business, and write it off periodically by scrapping worn-out machines and erecting new buildings whenever they have enough money on hand to warrant such expenditures.

Table 16 shows the per-farm average amount of the operator's expense under each of these general headings.

TABLE 16.—Operator's expenses—average amounts per farm of the various kinds

Item	Curry County (99 farms)		Roosevelt County (97 farms)	
	Amount	Percentage of total	Amount	Percentage of total
Current expenses.....	1,164	78.2	755	80.6
Livestock decrease.....	9	0.6	1	0.1
Depreciation:				
Buildings.....	107	7.2	95	10.1
Machinery.....	56	3.8	33	3.5
Tractors.....	45	3.0		
Autos and trucks.....	87	5.9	46	4.9
Decrease in feed and supplies.....	20	1.3	7	0.8
Total expenses.....	1,488	100.0	937	100.0

These expenses need a little more detailed analysis in order to get a more exact conception of what is actually happening in each county.

Five farmers in Curry County showed decreases in inventory value of livestock averaging \$172, and 15 showed average decreases

in value of feed and supplies amounting to \$131. Of the Roosevelt County farms, five showed an average decrease of \$25 in livestock and five had an average decrease of \$133 in value of feed and supplies. These decreases in inventory are of comparatively little importance and arise from the selling or killing of livestock and the feeding of supplies a little closer one year than another.

The per-farm depreciation figures on real-estate improvements are approximately the same as the average per farm reporting would be, since nearly all the farms bore this expense. Roosevelt County farmers had no depreciation charges on tractors and only 66 of them had depreciation, averaging \$68, on automobiles or trucks. In Curry County the average depreciation on tractors for the 21 farmers who had them was \$212, and for the 77 automobile and truck owners the average depreciation charge was \$111.

Table 17 analyzes the cash expenditures in detail, showing the number of farms bearing the expense, the total amount borne, and the average amount per farm reporting. These figures give a good idea of the relative importance of each item of expense which is likely to arise on farms of the area.

To be added to this table is the item of interest paid on borrowed capital. This item is not included in Table 16 because this is not an expense to be charged against the business. It is that part of the net returns of the business which must be paid to a silent partner who owns part of the capital investment, but the amount is of great importance to the operator who has to pay it.

TABLE 17.—Operator's cash expenditures:¹ An analysis of the current expenses; with interest on borrowed capital appended

[Averages by farms reporting]

Item of expense incurred	Curry County (99 farms)			Roosevelt County (97 farms)		
	Farms reporting	Total amount reported	Average amount per farm reporting	Farms reporting	Total amount reported	Average amount per farm reporting
Feed and seed bought.....	90	\$10, 671	\$119	88	\$12, 809	\$146
Cash rent ²	20	1, 665	83	42	1, 991	47
Tractor, auto, or truck ³	75	12, 550	167	70	5, 316	76
Repairs ⁴	54	7, 110	132	92	3, 767	41
Labor ⁵	81	26, 228	324	74	14, 318	193
Insurance ⁶	60	3, 521	59	29	294	10
Taxes ⁷	99	11, 781	119	94	7, 755	82
All other ⁸	99	26, 370	266	95	13, 821	145
Interest on borrowed capital ⁹	72	14, 971	208	76	10, 442	137

¹ Does not include expenditures for new buildings, machinery, livestock, etc., which become part of the permanent capital investment. (The sum of all the items in this table, calculated to per-farm averages, is less than the current expenses of the preceding table by the amount of the unpaid family labor and the interest on borrowed capital.)

² Cash paid for rent of land or for pasturage of stock.

³ Expenses of operating and repairs (no interest charge).

⁴ Repairs of buildings, fences, water systems, and machinery (not including tractors, automobiles, and trucks).

⁵ Hired labor and its board. (Does not include unpaid family labor.)

⁶ Insurance of all kinds on buildings, livestock, and crops.

⁷ Taxes of operator only on real and personal property.

⁸ All other cash expenses of the farm business for the year (e. g., threshing, grain hauling, ginning cotton, seeding and baling broomcorn, etc.).

⁹ Interest paid by operator on borrowed capital used in his farm business.

This table shows that in both counties the largest single item of cash expenditure per farm reporting was the outlay for hired labor

and its board. This is the sum paid as wages for men to do general farm work and is not included in the item called "all other." The latter covers a considerable part of the expense for labor in carrying out such operations as threshing, hauling grain, ginning cotton, seeding and baling broomcorn, as well as expenses for baling wire, binder twine, and the like.

The item of tractor, auto, or truck expense, which does not carry depreciation or interest, is next in importance in one county, with feed and seed bought second in importance in the other county.

The item of interest on borrowed capital will be discussed later.

FARM INCOME AND OPERATOR'S INCOME

In studies of this kind the difference between the total farm receipts and the total farm expenses is called the farm income. If the operator owns all of the land he operates and all of his equipment, the operator's income is the same as the farm income; but if he rents any land the farm income for such a farm is the sum of the operator's income and the landlord's income. In this circular the operator's business only has been studied, as the landlord's receipts and expenses are not certainly known and the value of his capitalization is merely what the tenant thought it was worth.

The operator's income is the net amount which he receives for his labor and management and for the use of whatever capital he may have invested in the part of the farm that he owns and in his equipment of all kinds. It is assumed that the operator has no borrowed capital, and it must be remembered that he gets that part of the family living which is furnished directly by the farm in addition to this income. (See Tables 13 and 14.)

Since this income is to be divided between interest on capital and operator's services but is all received by the operator, he is more interested in the total amount than in the proportional subdivision. And so long as this total amount is sufficient to pay the necessary living expenses of the family and to replace equipment, he considers himself more or less successful and does not know whether he is earning wages for himself and interest on his capital or not.

This condition obtains when the operator really owns all the capital investment. If his capital is partly borrowed, the interest on such a loan must come out of the income and must be paid before the operator gets anything. If the remainder is insufficient for his needs, he can not continue the business very long unless he has other sources of income.

If the farmer owns his farm, all the income comes to himself to be divided as he sees fit between wages and interest. If he allows the current rate of interest on his investment, the remainder may be considered as wages earned during the year (usually called labor income). If the operator allows himself such wages as he believes his services to be worth, the remainder, after subtracting this amount from operator's income, will be the interest he has received on his capital, and the rate of interest his capital has earned during the year can be calculated.

Average values of these items calculated on a per-farm basis are shown in Table 18.

TABLE 18.—Operator's income and other related values—average value per farm

Item	Curry County (99 farms)		Roosevelt County (97 farms)	
		<i>Per cent</i>		<i>Per cent</i>
Operator's total receipts (see Table 11).....	\$3,302		\$2,356	
Operator's total expenses (see Table 16).....	1,488		937	
Operator's income from farm operated.....	1,814		1,419	
Estimated value of operator's labor.....	675		625	
Interest earned on operator's capital.....	1,139		794	
Operator's capital investment (see Table 10).....	13,552		11,274	
Rate of interest earned.....		8.4		7
Interest on capital, at 6 per cent.....	813		676	
Operator's labor income.....	1,001		743	

FAMILY INCOME

About three-fourths of the farmers visited—72 in Curry County and 76 in Roosevelt County—had more or less borrowed capital upon which they had to pay interest. These interest charges must be paid from the operator's income. But the farmer did not pay for the labor of the members of his family, although this labor charge is a legitimate charge against the business, when an effort is made to determine the net income arising from the operator's efforts and the use of the total capital. It follows that if a farmer wishes to know just what amount has been obtained as the result of the work of the family and the use of the operator's capital (which is the amount actually available for paying the family expenses), he must deduct interest on borrowed capital from operator's income and add the value of family labor which was charged as an expense but not paid. If to this result he adds the value of the living furnished by the farm, he has the total income from all farm sources which is available to the family (see Table 19):

TABLE 19.—Average amount per farm available for operator's family

Item	Curry County (99 farms)	Roosevelt County (97 farms)
Operator's income from farm business ¹	\$1,814	\$1,419
Family labor, charged but not paid.....	155	136
Family income ¹	1,969	1,555
Interest paid on borrowed capital ²	151	108
Available for family ¹	1,818	1,447
Family living supplied by farm ³	448	472
Total income of family from all sources.....	2,266	1,919

¹ Does not include what the farm furnished the family. (See sixth item in this table.)

² This is a per-farm average; for distribution of this expense see Table 17.

³ Includes house rent. (See Table 14.)

The averages given in Table 19 are per-farm averages. Since only a part of the farms were affected by these debts and credits it is necessary to show the distribution and amounts of each. These data are presented in Tables 20 and 21 which are on a per-farm-reporting basis.

TABLE 20.—*Interest paid on borrowed capital and number of operators paying indicated amounts*

Group	Curry County (99 farms)		Roosevelt County (97 farms)	
	Number of farms reporting	Average amount paid	Number of farms operating	Average amount paid
\$0 to \$100.....	17	\$69	50	\$55
\$101 to \$200.....	29	149	13	143
\$201 to \$300.....	12	253	6	227
\$301 to \$400.....	8	318	2	356
\$401 to \$500.....	3	436	1	414
Over \$500.....	3	865	4	832
Total and average.....	72	208	76	137

TABLE 21.—*The charge made, but not paid, for family labor, distributed by \$100 increments*

Group	Curry County (99 farms)		Roosevelt County (97 farms)	
	Number of farms reporting	Average amount charged	Number of farms reporting	Average amount charged
\$0 to \$100.....	9	\$54	21	\$62
\$101 to \$200.....	4	152	19	166
\$201 to \$300.....	5	261	8	290
\$301 to \$400.....	8	368	3	360
\$401 to \$500.....	3	480	4	478
Over \$500.....	8	1,072	4	855
Total and average.....	37	415	59	224

MEASURING THE RESULTS

In a study of this kind it is desirable, besides finding the general standard of farming in a region, to get figures that will approximately measure the degree of success in farming attained by the different individuals so that such measurements may be compared with each other and with similar measurements from other localities. No completely satisfactory measure of the individual farmer's success has yet been devised.

Each method of measurement so far developed has only a certain degree of accuracy and is designed to measure only certain factors or groups of factors. All such measures are based on assumptions as to certain other variable factors, that, for the sake of brevity, are not stated. The names assigned to the standards of measure are usually technical and restricted uses of words having a broader meaning in common usage; hence they may be misunderstood and their meanings may be extended.

Notwithstanding such difficulties, some approximate measures that are highly suggestive if not rigorously comparable have been worked out. Three points of view have been taken: (1) The business as a business, not including the family's living; (2) the operator as a wage earner, assuming that his capital otherwise invested would bring him a certain return without effort on his part; and (3) the results of the family's efforts applied to the given equipment expressed in terms of family income available for maintaining a standard of living. The last is the most important, since the outcome of the combined efforts of the family determines whether they can continue to live on that farm.

In this study the operator's income is the net income of the business as a business. These figures assume that the family farm living has been furnished, that family labor (except the operator's) has been paid for, and that the operator owns the whole of his capital investment; hence, the operator's income becomes a measure of the success of the business. Under these assumptions, if we subtract from the operator's income the interest on his capital at the rate current in the region, we have left the wages the operator has obtained. This labor income then becomes the return to the farmer as a workman and manager of that farm that year. (See Table 18.) The rate of interest actually earned upon the capital, after allowing the operator reasonable wages, is a measure of the success obtained in the use of the capital. (See Table 18.)

But the farm business is closely associated with all the activities of the home life. The farm itself furnishes part and sometimes a large part of the food and pays the rent and sometimes supplies the fuel, while other members of the family often do much of the work. The question of whether they as a group can make ends meet on that particular farm depends upon the difference between the total income and the total outgo from any and all sources. Actual conditions of ownership must be met, so that if the farm is carrying any mortgage indebtedness, the charges for such capital must be paid before the income which determines the family's standard of living can be ascertained, and the earnings, or savings, of any other members of the family which are contributed to the family's income are just that much more than the operator's income. It is this amount available for the family that measures the success or failure of their joint efforts as applied to the use of the effective capitalization that they actually have invested in the farm and its equipment.

Average values of all these measures have been given in Tables 18 and 19 but a much better idea of what is actually taking place in these two counties may be obtained from Table 22, which shows the distribution of these three measures in each county. These figures allow comparisons to be made between the measure of the success of the business, the operator, and the family in either county, or the same measures to be compared in the two counties.

TABLE 22.—*The distribution of operator's income, labor income, and amount available for the family by \$1,000 increments*

Amounts received, arranged by \$1,000 increments	Curry County					
	Operator's income		Labor income		Amount available for family	
	Farms reporting	Average amount	Farms reporting	Average amount	Farms reporting	Average amount
Farms showing failure in some degree:						
More than \$1,000.....			2	-\$1,428		
\$1,000 or less.....	5	-\$253	22	-368	1	-\$216
Farms showing some measure of success:						
Less than \$1,000.....	28	578	36	522	21	644
\$1,001 to \$2,000.....	31	1,394	19	1,406	30	1,520
\$2,001 to \$3,000.....	20	2,494	11	2,501	23	2,355
\$3,001 to \$4,000.....	5	3,505	5	3,307	11	3,367
\$4001 to \$5,000.....	4	4,358	2	4,176	7	4,472
Over \$5,000.....	6	6,098	2	5,969	6	7,146

TABLE 22.—*The distribution of operator's income, labor income, and amount available for the family by \$1,000 increments—Continued*

Amounts received, arranged by \$1,000 increments	Roosevelt County					
	Operator's income		Labor income		Amount available for family	
	Farms reporting	Average amount	Farms reporting	Average amount	Farms reporting	Average amount
Farms showing failure in some degree:						
More than \$1,000.....			1	-\$2,066		
\$1,000 or less.....	4	-\$311	11	-318	1	-\$790
Farms showing some measure of success:						
Less than \$1,000.....	38	708	57	511	17	639
\$1,001 to \$2,000.....	34	1,428	20	1,390	46	1,551
\$2,001 to \$3,000.....	13	2,417	7	2,461	20	2,425
\$3,001 to \$4,000.....	4	3,537	1	3,391	6	3,338
\$4,001 to \$5,000.....	3	4,241			4	4,383
Over \$5,000.....	1	5,115			3	5,889

In certain cases, results prefixed by a minus sign are obtained. Operators' incomes that are minus quantities mean that these farms did not pay business expenses by the amount of this negative quantity. Such farms, however, did furnish house rent and a considerable part of the living for the family, and if other members of the family helped to earn the remainder of the living the family may have gotten through the year without serious difficulty.

Similarly, minus labor incomes show that the operators on such farms made no wages at all and that the farm business lacked the amount shown as negative labor income of paying interest on the capital. Such operators were not successful as individual wage earners on those farms that year, though the interest on capital invested by the operator, the amount allowed for the labor of other members of the farm family, and the value of the living furnished by the farm, taken together, may enable the family to make ends meet and stay on the farm.

But minus quantities representing the amount available for the family show the deficit which had to be met by the family to pay actual expenses. Usually such sums must be borrowed along with money required for other expenses of the family not considered in this study. If such a deficit is merely temporary and accidental the farmer may recover financially. If it occurs each year it is only a matter of time before the farmer will lose possession of his farm. In many cases this deficit arises from the fact that he is paying too much interest on borrowed capital, which is only another way of saying that someone else owns too large a part of the effective capital or charges too high a rate of interest on his share of it, and what remains to the farmer after paying this silent partner's share of the income is not enough for the farmer and his family to live on.

An examination of Table 22 discloses several rather interesting generalizations. From the standpoint of the success of the business, only five of the farms studied in Curry County and four in Roosevelt County failed to pay expenses and the average amount of this

failure was less than \$300. The number of operators who failed to make 6 per cent on their capital and got no wages for their work, except the farm living, was larger; it was 24 in Curry County and half as many in Roosevelt County.

This does not mean that they or their families suffered. It must be remembered that the interest is calculated on the estimated capital. If this has been overestimated or if the operator's capital really is large, an income of a smaller rate than that used (6 per cent) might easily give sufficient return to the farmer to support the family comfortably. In such a case it is the capital's earnings that support the family. Or the income may be divided so as to give the farmer the wage he though he should get and a much lower rate of interest on his capital. In such a case the total amount received might be enough for the family's needs.

Only two of the farms, one in each county, gave total returns that were less than total expenses. One of these showed a deficit only temporarily because of poor yields for a single season and some unusual expenses. In the other case, the failure in 1924 was due largely to the fact that a large interest payment for borrowed capital had to be made. Nothing serious is to be expected in the near future and an increase in crop production and a decrease in the beef cattle enterprises would probably put this farm on a paying basis.

It is an encouraging fact that 39 of the Curry County farmers and 28 in Roosevelt County made labor incomes of over \$1,000, received 6 per cent on their capital, and made the family farm living besides. Table 18 shows that the average wage the farmers thought their services were worth was \$675 in Curry County and \$625 in Roosevelt County. Over half of the farmers visited in both counties made labor incomes of this amount or more, and some of them made several times that much.

INDEBTEDNESS

The indebtedness that farms are carrying is an important factor in an understanding of the results of the farm business. For this study, the farms were divided roughly into three groups: (1) Those having no mortgage indebtedness; (2) those with small indebtedness; and (3) those with large indebtedness. In judging the relative size of the debts those that amounted to \$10 per acre of owned land or less were called small, on the assumption that this approximated from 40 to 60 per cent of the going value of the improved real estate in the area. Any indebtedness of more than this amount was classed as large.

Table 23 shows the indebtedness of the farmers visited in the two counties.

TABLE 23.—*Indebtedness, average amount and increase or decrease per farm reporting and per acre owned in 1924*

Condition of indebtedness	Curry County (99 farms)				Roosevelt County (97 farms)			
	Number of farms	Percentage of all farms	Average debt per farm	Average debt per acre	Number of farms	Percentage of all farms	Average debt per farm	Average debt per acre
Indebtedness:								
None ¹	28	28.3			23	23.7		
Small.....	57	57.6	\$2,828	\$6.01	69	71.1	\$1,841	\$3.13
Large.....	14	14.1	5,992	18.85	5	5.2	6,142	16.60
Decrease during year:								
Small.....	46	² 64.8	143	0.25	45	² 60.8	198	.22
Large.....	14	19.7	244	.77	3	4.0	260	.42
Increase during year:								
Small.....	8	² 11.3	844	0.25	3	² 4.0	2,133	0.16
Large.....	1	1.4	150	0.03	1	1.4	1,000	0.54

¹ Three farmers in Curry County had small debts (average \$107), upon which interest was not charged that were not secured by any sort of mortgage. In Roosevelt County there were three farmers with similar small debts (average \$210), and one man who owed \$2,500 secured only by his personal notes. None of these debts demanded interest.

² Percentage of all farmers having any mortgage indebtedness.

In Curry County the farmers classed in the small indebtedness group had an average indebtedness amounting to 18.9 per cent of their average capital. The average indebtedness of the men having large indebtedness was 42.4 per cent of their average capital. The corresponding percentages for the farmers of Roosevelt County were 15.6 and 41.9 per cent.

A more detailed analysis of the nature and amount of the indebtedness and the number of farmers having each kind is shown in Table 24.

TABLE 24.—*Number of farmers having different kinds of indebtedness and the average amounts of such indebtedness*

Items	Curry County				Roosevelt County			
	Small debts		Large debts		Small debts		Large debts	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount
First mortgages.....	57	\$2,453	14	\$3,381	69	\$1,450	5	\$5,337
Second mortgages.....	5	1,419	8	3,434	2	550		
Chattel mortgages.....	1	800	1	1,000	8	1,809	1	3,000
Other debts.....	19	708	5	1,616	19	596	2	512
Interest paid.....	57	170	14	372	69	126	14	434

¹ On one farm no interest upon the outstanding indebtedness was required by the lender

The data presented in Tables 22, 23, and 24 show plainly several things as to the status of solvency of these farmers. A small number of the men, 10 in all, did not make expenses in a business way that year and a considerably larger number did not make wages for themselves and interest on their capital. In only two cases did the total expense of the operation of the farm by the family exceed the income received; and in by far the most cases, the excess of income over expense of the family operations is enough to supply other necessary family demands.

Relatively few of the farms are carrying indebtedness that is in any sense heavy, and the financial condition of most of the permanently established farmers of the area is such as to render them good credit risks. None of the men interviewed could be called insolvent, though a few were carrying too much capital indebtedness. Practically all interest charges and taxes were paid up, and relatively few store accounts were unpaid.

Table 23 shows that the number of farmers who were making payments upon their mortgages was a large part of the total number whose farms were mortgaged. It also shows that the number of farmers who increased their indebtedness in 1924 was very small (less than 7 per cent had any mortgage indebtedness) and that the increases were mostly small.

In Curry County, about three-fourths of the money borrowed was obtained as Federal farm loans, whereas only about half of the money borrowed in Roosevelt County was in the form of Federal farm loans. The ordinary rates of interest on these loans in the region is $5\frac{1}{2}$ and 6 per cent with 1 per cent additional for amortization. Short-time loans usually cost 10 per cent if taken from the banks. Loans from private sources usually pay lower than bank rates.

Some of the farmers visited had been exploited by certain loan companies whose agents offered money at 7 per cent, but charged commissions in such a way as to make the borrower pay not less than 10 per cent for the money obtained and sometimes more than this rate.

CHANGES IN NET WORTH

It is difficult to measure the degree of success that farmers achieve in any area. The results obtained from a survey of a single year's operations tell only the status of the business at a given time and whether the operator has made interest on his capital, reasonable wages for himself, and a living for his family for the year studied.

In a new country that is occupied by original homesteaders who started with very little capital, the mere fact that they have succeeded in staying and making farms out of range land is generally a sufficient indication of a considerable degree of success.

Over half (56 per cent) of the Curry County farmers and about two-thirds (66 per cent) of the Roosevelt County farmers got their first pieces of land as homesteads or relinquishments. (Table 2.) Most of the buying has been done since the 1910 drought, but much the larger number of the farmers weathered the 1918 drought. So the mere possession of a farm with good buildings, livestock, and equipment in this district is in the nature of proof of a large measure of success.

If what the farmer had when he started in the area and what he has now are known, the difference between these values shows what he has made or lost on the farm during the time he has operated it, provided his farm business has not been assisted by money from other outside business enterprises nor furnished funds for outside expenditures.

But many of the farmers have had receipts from the outside and have also made outside expenditures, so it becomes necessary to get

data concerning the more important of such receipts and expenditures for each farm in order to correct the other figures. When such a correction is applied the average degree of success the farmer has had in his business can be roughly measured. These figures are not absolutely accurate but they are a good indication of how rapidly the farm business has been advancing.

Another possible source of error in the method lies in the fact that a large part of the present net worth of the farmer lies in the value of his land. This value has been estimated only, but, in the main, it has been conservatively estimated; so the figures are reasonably accurate. But in order to avoid completely the effect of this uncertainty, the difference in net worth minus the apparent increase in the land value has been calculated. When figures obtained in this way show gains, these gains are unquestionable. Since most of the land has actually increased more or less in value, whatever the real increase may be should be added to the gains just mentioned in order to find the total increase in net worth made by the operator by working this farm during the period he has owned it.

Table 25 shows the per-farm average values of the various quantities for the whole period of operation of each farm.

TABLE 25.—*Changes in net worth; per farm averages, for entire period of operation*¹

Item	Curry County (99 farms)	Roosevelt County (97 farms)
Present net worth.....	\$11,646	\$10,402
Original net worth (corrected).....	2,967	2,368
Total net increase.....	8,679	8,034
Estimated increase in land value.....	6,936	6,314
Increase in all other values.....	1,743	1,720

¹ Average period of operation 12.4 years for Curry County, and 12.94 years for Roosevelt County.

Since the length of time the farm has been operated is an important factor in determining the amount of accumulation that has resulted from the farming operations, the data shown in a general way in Table 25 have been arranged by the five-year periods of settlement shown in Table 2. This arrangement of the data is given in Table 26.

From Tables 25 and 26 it appears that most of the farmers have made gains in net worth which in several cases are substantial. Since these figures are averages, and since some of the farmers did not make gains, it follows that those who did gain, actually gained more than the amounts shown. To present the actual distribution of gains and losses the data are so arranged in Table 27 as to show the number of farmers, grouped according to the period of beginning operations, who made losses or gains of given amounts, and the average amount of each.

TABLE 26.—Average changes made in operator's net worth during period of operation

CURRY COUNTY

Item	Period in which present operators commenced using the farms studied					
	Before 1901	1901-1905	1906-1910	1911-1915	1916-1920	1921-1924
Farms in group.....number.....	1	4	44	18	24	8
Present net worth ¹	\$6,362	\$6,458	\$14,252	\$11,176	\$9,825	\$7,084
Original net worth ²	2,180	-25	2,200	2,614	3,665	7,486
Difference ³	4,182	6,483	12,052	8,562	6,160	-402
Increase in land value ⁴	5,692	4,847	10,471	7,869	2,906	-1,315
Difference minus land increase ⁵	-1,510	1,636	1,581	693	3,254	913

ROOSEVELT COUNTY

Farms in group.....number.....		12	45	10	12	18
Present net worth ¹		\$12,963	\$10,765	\$15,598	\$7,758	\$6,665
Original net worth ²		1,442	1,522	2,809	3,370	4,189
Difference ³		11,521	9,243	12,789	4,388	2,476
Increase in land value ⁴		9,390	7,230	9,839	3,297	2,029
Difference minus land increase ⁵		2,131	2,013	2,950	1,091	447

¹ Average net worth, at present time, of farmers who settled on their farms during the period shown at the head of each column.

² Average net worth of these same farmers at the time of settlement "corrected" for major items of outside receipts and expenditures that affect the farm business (if outside expenditures have been greater than original net worth and additions, this quantity may be a negative quantity).

³ Average difference between these two quantities, or average gains or losses made by the farm business (including estimated increase in land value).

⁴ Average increase in the value of the land during the period of operation. Several of these farms, bought after war-time inflation of land prices had occurred, cost more than they are now worth. This explains why some farmers who have made gains by their farm operations have been forced to write off part of their capitalization. The loss in land value is greater than the gains made from the farm.

⁵ Average gain or loss minus the increase in land value. Losses are prefixed by a minus (-) sign.

TABLE 27.—Number of farmers making gains or losses in net worth since settling, after deducting the increases in land value

CURRY COUNTY (99 FARMS)

Amount of loss or gain	Period in which operators commenced using the farms studied					
	Before 1901	1901-1905	1906-1910	1911-1915	1916-1920	1921-1924
Losses:						
More than \$4,000.....number.....			3			1
\$4,000 to \$2,001.....do.....			3	2	2	
\$2,000 or less.....do.....	1	2	9	5	1	1
Average amount of loss.....dollars.....	1,510	370	2,088	1,810	1,865	2,990
Gains:						
Less than \$2,000.....number.....		1	10	5	9	4
\$2,001 to \$4,000.....do.....			8	5	5	1
\$4,001 to \$6,000.....do.....			8	1	2	1
\$6,001 to \$8,000.....do.....		1	1		1	
\$8,001 to \$10,000.....do.....					2	
Over \$10,000.....do.....			2		2	
Average amount of gain.....dollars.....		3,642	3,479	2,287	3,986	2,213

TABLE 27.—Number of farmers making gains or losses in net worth since settling, after deducting the increases in land value—Continued

ROOSEVELT COUNTY (97 FARMS)

Amount of loss or gain	Period in which operators commenced using the farms studied					
	Before 1901	1901-1905	1906-1910	1911-1915	1916-1920	1921-1924
Losses:						
More than \$4,000..... number.....		1	2			1
\$4,000 to \$2,001..... do.....			1			4
\$2,000 or less..... do.....		1	7	1	2	
Average amount of loss.....dollars.....		2,270	2,211	803	502	1,911
Gains:						
Less than \$2,000..... number.....		2	15	4	7	9
\$2,001 to \$4,000..... do.....		6	9	1	3	4
\$4,001 to \$6,000..... do.....		1	5	3		
\$6,000 to \$8,000..... do.....		1	2			
Over \$8,000..... do.....			4	1		
Average amount of gain.....dollars.....		3,011	3,221	3,366	1,410	1,355

So far, in this discussion of changes in net worth due to the operation of the farm (the earned increment to the farmer's net worth), the unit considered has been the farm or the farmer. Table 5 shows that there is a wide range in the sizes of the farms, hence such values as have been considered really tell about the comparative success of operators who do not have equal opportunities for the application of their efforts. And the treatment does not show comparable measurements for the part which the land has played. An attempt to show this earned increment as if it were applied to the land is shown in Table 28.

TABLE 28.—Number of farmers making indicated gains or losses in net worth per acre of land owned in 1925, and average amount of such changes, the changes of land values having been eliminated¹

CURRY COUNTY (99 FARMS)

Loss or gain	Period in which operators settled on their farms											
	Before 1901		1901-1905		1906-1910		1911-1915		1916-1920		1921-1924	
	Farms	Amount	Farms	Amount	Farms	Amount	Farms	Amount	Farms	Amount	Farms	Amount
Loss:												
Over \$15.....					1	\$21					1	\$17
\$11 to \$15.....					1	11			1	\$15		
\$6 to \$10.....	1	\$9			4	8	1	\$6	1	8		
\$5 or less.....			2	\$2	9	2	6	3	1	2	1	5
Gain:												
\$5 or less.....			1	3	14	2	5	3	5	4	2	3
\$6 to \$10.....					7	7	3	6	2	7	3	8
\$11 to \$15.....					3	13	1	12	3	13		
\$16 to \$20.....					2	17	2	18				
Over \$20.....			1	21	3	27			5	35	1	24

¹ Nearest whole number of dollars.

TABLE 28.—Number of farmers making indicated gains or losses in net worth per acre of land owned in 1925, etc.—Continued

Roosevelt County (97 Farms)

Loss or gain	Period in which operators settled on their farms											
	Before 1901		1901-1905		1906-1910		1911-1915		1916-1920		1921-1924	
	Farms	Amount	Farms	Amount	Farms	Amount	Farms	Amount	Farms	Amount	Farms	Amount
Loss:												
Over \$15-----					2	\$11					1	\$22
\$11 to \$15-----					1	9						
\$6 to \$10-----					7	2	1	\$2	1	\$6	1	
\$5 or less-----			2	\$3							4	2
Gain:												
\$5 or less-----			7	3	16	2	6	2	8	3	8	3
\$6 to \$10-----			3	8	11	7	2	6	1	7	1	9
\$11 to \$15-----					5	13					2	11
\$16 to \$20-----							1	17			1	18
Over \$20-----					3	25			1	29	1	127

² A very small farm in which considerable additional capital has been recently invested in the form of improvements.

In preparing this table the individual gains or losses in net worth, minus the increase of the value of the land, were reduced to an acre basis by dividing the operator's gain or loss by the number of acres of land. These figures are based upon the number of acres owned in 1925, but since none of the farmers have decreased the acreage owned and many of them have increased it, the gains shown are really slightly smaller than the actual gains made; but the difference is so small that it is not worth while to perform the computations necessary to obtain it. Since the increase in land value has been omitted from the calculation, the results obtained show the average gain or loss made by the operation of an acre of land during the period of occupancy by the different farmers, and they are, therefore, much more nearly comparable than figures relating to separate farms.

It must be understood that this average acre of land is not quite the same for different farms, but such average acres differ much less than do the farms composed of varying numbers of such varying average acres. Hence, comparisons of values on an acre basis are more satisfactory than those on a per-farm basis or per-man basis.

CONCLUSIONS AND SUGGESTIONS

Following are some generalizations concerning the farming in this area, which seem to be warranted by the results shown in the foregoing discussion:

(1) Farming has been carried on in the area long enough to have demonstrated that a comparatively large acreage of land is necessary for the one-family, general or diversified farm which is the type that can be recommended. The average size of farms in Curry County is about three-quarters of a section and in Roosevelt it is a little over a section, with nearly half of it in crops in the former county and only about one-fifth in crops in the latter.

(2) Permanent agriculture in this region, without irrigation, is founded upon the production of sorghums. Grain sorghums furnish the grain feed and part of the roughage. Sorgo (cane) and Sudan grass furnish most of the hay. These plants can be depended upon to produce crops almost any year. Thus feed for livestock is assured and meat animals (cattle, sheep, and hogs) can be produced for sale, and the production of butter, butterfat, milk, poultry, and eggs becomes possible wherever a market can be found for them. Besides guaranteeing feed for livestock, the sorghums produce salable grain for which there is a fair market demand and the Sudan grass seed is a salable crop.

(3) Farmers of the region have learned to keep at least two years' feed supply on hand most of the time so that they may not be forced to buy feed at high prices during a year of insufficient rainfall. The stored feeds are not sold until another crop is in sight. The sorghums lend themselves readily to this necessary storage, the grain being stored best as heads and the fodder as bundles. Threshed grain is not difficult to keep in this area where the air is very dry, but some precaution is necessary to keep it from heating. The headed grain is easily kept in bins and the bundled fodder is usually kept in stacks or ricks in the open.

(4) Most of the feed is fed dry, but there is reason for urging a greater use of some kind of silo. Since much of the feed must be sold as butter, or butterfat, the better utilization of it suggests the silo. Trench and pit silos are easily constructed and are effective.

(5) The other cash crops depended upon are wheat in Curry County and broomcorn and cotton in Roosevelt County. A small quantity of corn is produced in each county and there seems to be some demand for the grain, but the risk is great and the production per acre is low. In Curry County, the heavier soils, slightly higher altitude, and more northern latitude, which probably result in a little greater rainfall, render the production of winter wheat reasonably profitable as a cash crop at the prices prevailing for the past two or three years. The risk is considerably greater than for any of the sorghums, but the grain is more readily salable.

Production of broomcorn as a cash crop has been considerably stimulated in Roosevelt County, and the farmers have organized a cooperative association for storing and marketing the crop. The demand for broomcorn is limited and for certain classes of brush it is easily oversupplied, with a consequent slump in the price. This was the condition in 1925, and farmers who had produced a low-grade brush did not get enough for their product to pay for raising it. At the same time a good quality of fine, well-colored brush was sold at prices two or three times as high and was a very profitable product. But there is a rather large risk with this crop at all times both in producing and selling.

Experience in Roosevelt County during the last five years has demonstrated that cotton can be grown on some of the land part of the time and yields obtained that make it a profitable crop as long as the price of lint averages as high as it did in 1924.

Further experimentation with this crop is certainly warranted, since cash crops are not numerous in the area and most of those

now in use fail part of the time. Just what the risk for cotton may be has not yet been determined. In fact, the crop has been tried for so short a time that the best cultural practices are probably not yet known.

Cotton probably will become one of the money crops which farmers will plant regularly every year on the lighter soils, expecting a few good crops, several fair-to-poor crops, and a few complete failures in each decade. Such a crop can not be used as a foundation for a permanent organization because of the high percentage of failures to be expected. Neither should it be discarded altogether, since the small cost of putting in a limited area contrasted with the gains arising from a good crop, combined with high prices, makes it a good risk to take every year. A limited expansion of the acreage in cotton is to be expected. The farmers should take care to select the right variety and all farmers who patronize the same gin should use the same variety to avoid mongrelizing their planting seed.

(6) Production of meat animals (cattle and hogs) and production of livestock products, particularly butterfat as cream, and poultry products are essential enterprises that are reasonably well adapted to the area and absolutely necessary to the farm organization of this area. The serious need is a source of cheap, preferably farm-produced feed that has a high protein content. Cottonseed and its derivatives, cake or meal, probably will shortly become such a source, but a leguminous crop is needed in the rotation and such a crop would furnish the desired feed. Sweet clover is indicated as the most probable crop but it is possible that peanuts might prove useful, and it is likely that Mexican pink or pinto beans could be used. Much experimentation is needed. Recent experiments with cowpeas are promising.

(7) It appears desirable to consider and possibly experiment under the special conditions of this region with dual purpose cattle of relatively large beef-type frame, but giving a fair supply of moderately rich milk. Cows should be chosen for their production and for their ability to utilize the prevailing type of feed to advantage, to raise fair-to-good beef-type calves that would help dispose of the feed crops, and to be worth butchering when their milking days are over.

(8) Farming with tractors is yet to be tried out here. Relief and soil features, and the size of the farms, are adapted to the use of tractors, and the farmers are accustomed to the use of large machinery. Expansion in this line may come as farmers accumulate more funds. Especially is this true since tractors are now available that can be used to cultivate row crops and materially increase the acreage that one man can farm.

(9) The farm year 1924 was moderately profitable for most of these farmers. A few lost money on the business of the year; a larger number got no wages for their services, except what the farm furnished the family, and only part of the current rate of interest (6 per cent) on their capital. But there were only two families, one in each county, that did not break even or better on the year's operations taken as a whole. One of these farms is somewhat over-capitalized and may ultimately succeed. The other was subject to a temporary expense that did not jeopardize the ownership of the

farm. On the whole, the percentage of men who got (a) the living furnished by the farm, (b) 6 per cent on their capital investment, and (c) wages equal to or better than what they themselves thought was a fair average farmer's wage, was rather high—in fact, higher than might be expected in such a farming area. Most of the men were satisfied with their locations and did not want to leave.

(10) Generally speaking, the farming business of the area was in good condition financially. About one-fourth (28 and 24 per cent) of the farms had no mortgage indebtedness. Nearly two-thirds (58 and 71 per cent) were carrying a small indebtedness (\$6 and \$3 per acre), and only a few (14 and 5 per cent) had a mortgage indebtedness amounting to a little over 40 per cent of the valuation of the property. Practically none of the men were in a critical financial condition.

(11) Seventy per cent of the farmers in Curry County and 80 per cent of those in Roosevelt County have made increases in their net worth, without taking into consideration the very real increase, whatever it may be, of the value of their land, during the time they have been operating these farms. If a fair increase in the value of the land be allowed, practically all of them have made increases in their net worth by operating their farms.

(12) The percentage of failures in the pioneering of this area is not shown in this circular. It doubtless never will be known, since the men who failed have gone and it is impossible to get a statement of the factors that caused their failures. The data here given are those furnished by men who succeeded in remaining. Their success tells that farming is assured in the area if the farms are properly organized, capitalized, and operated.

**ORGANIZATION OF THE
UNITED STATES DEPARTMENT OF AGRICULTURE.**

October 28, 1927

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This circular is a contribution from

<i>Bureau of Agricultural Economics</i>	LLOYD S. TENNY, <i>Chief</i> .
<i>Division of Land Economics</i>	L. C. GRAY, <i>in Charge</i> .

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